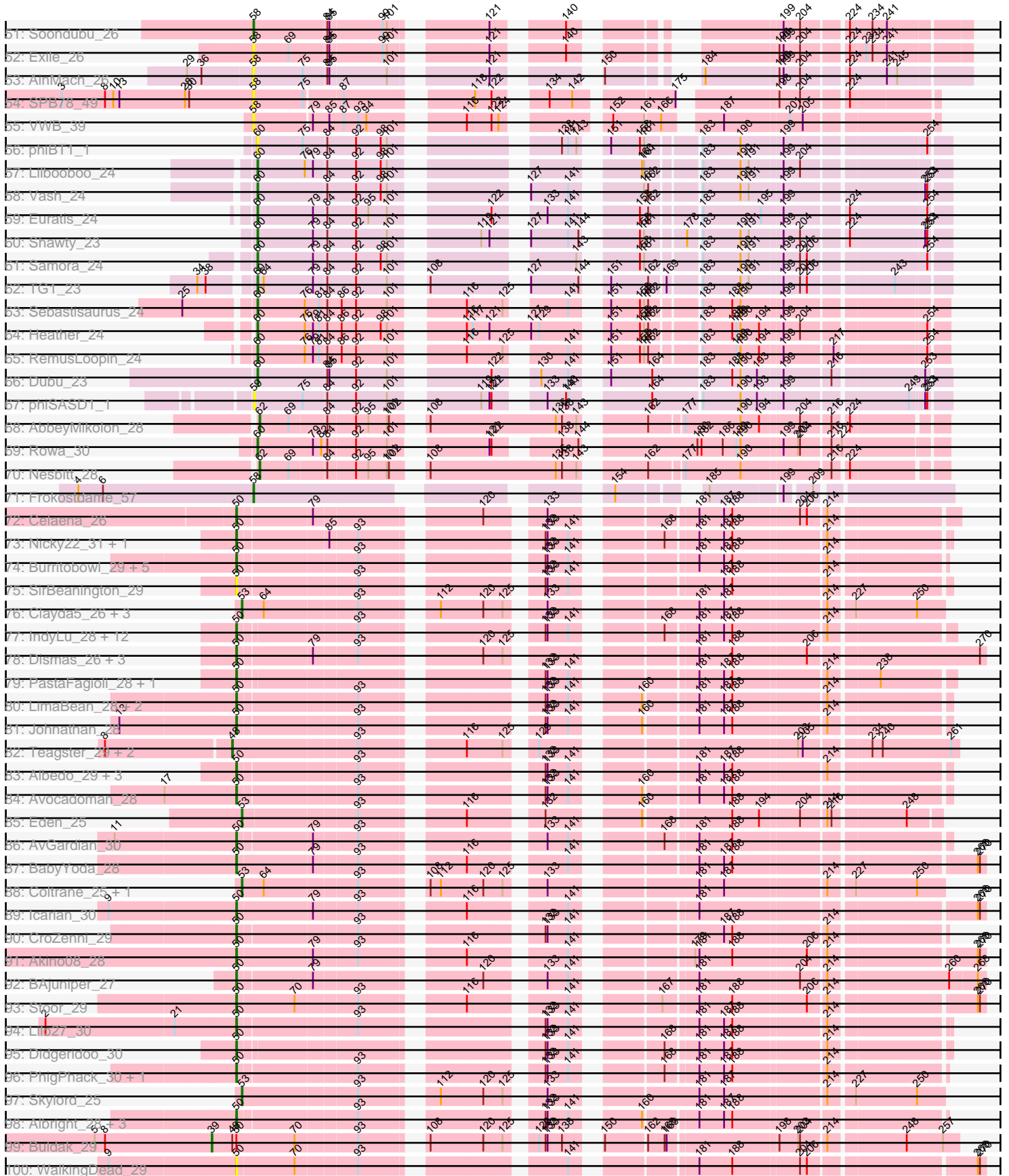
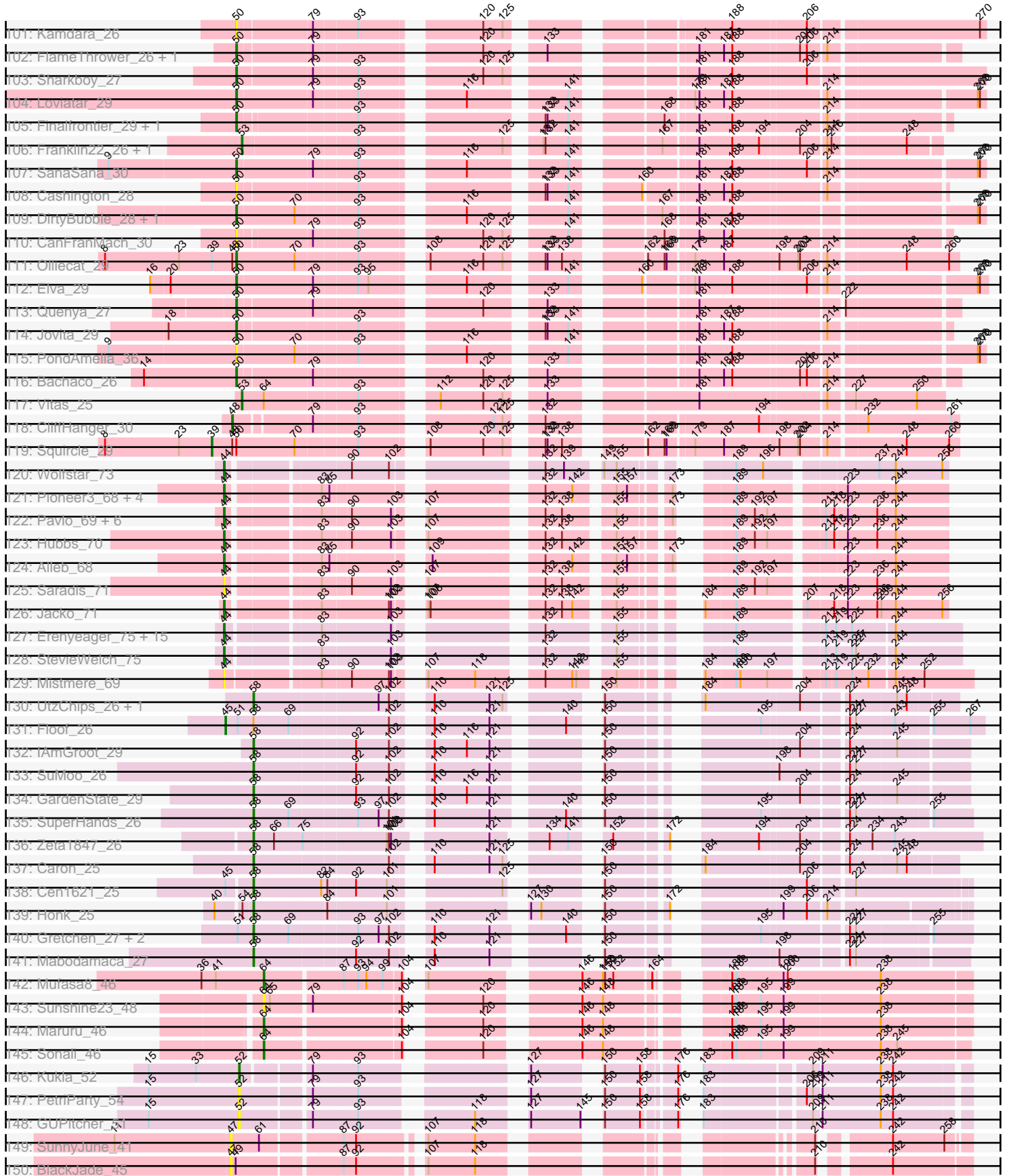




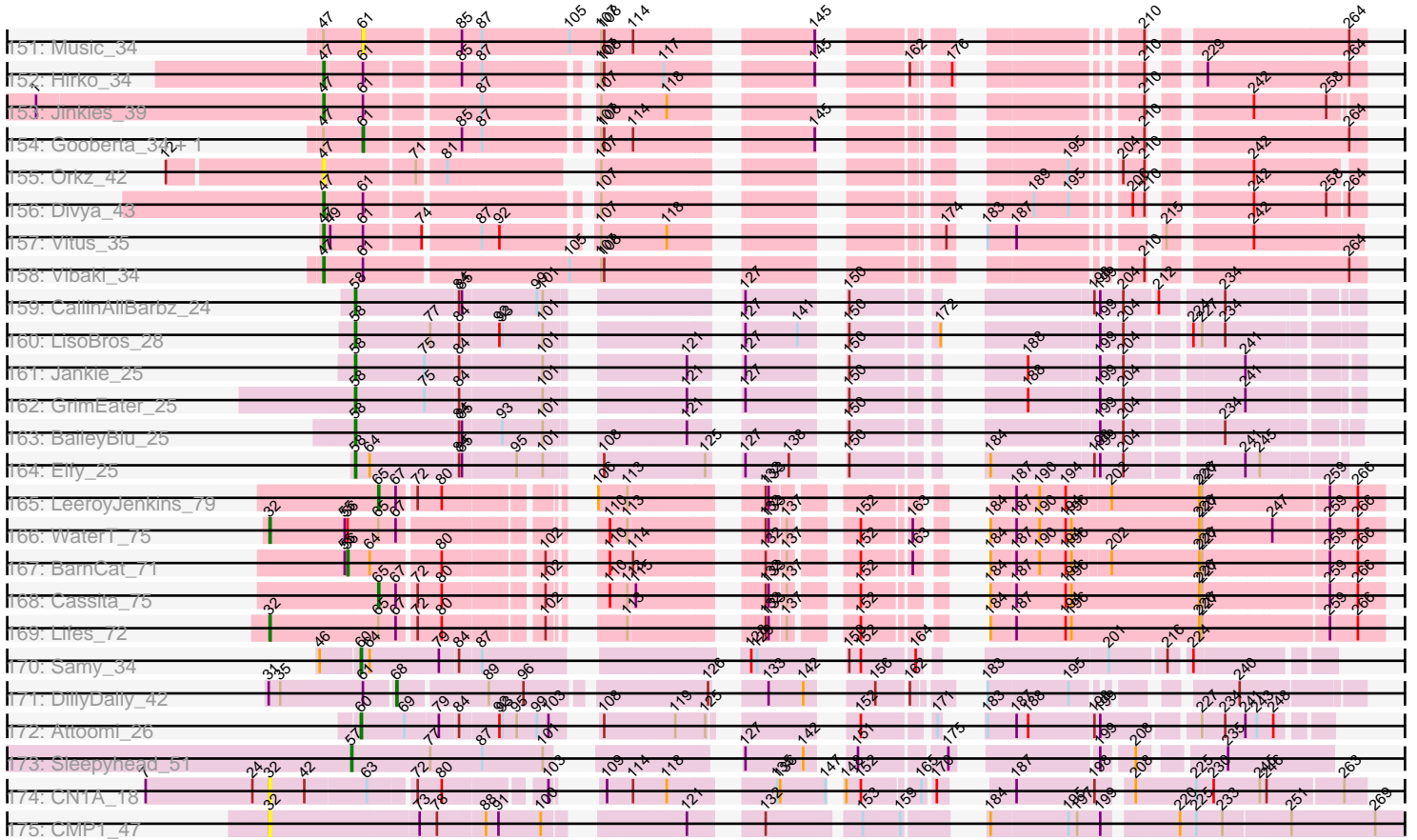
Pham 307971



Pham 307971



Pham 307971



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 307971 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 307971 has 287 members, 49 are drafts.

Phages represented in each track:

- Track 1 : Michkear\_29
- Track 2 : ThursdayNight\_26
- Track 3 : Asa16\_28, London\_28, Subaru\_29, Elezi\_28, Skelbel\_29, Eraser\_28, Jstan\_30, Niobe\_28
- Track 4 : Powerpuff\_26, AGrandiflora\_27, YesChef\_26
- Track 5 : Wildwest\_27
- Track 6 : Cassia\_26
- Track 7 : Crewmate\_29, ObiToo\_28
- Track 8 : Cyan\_26, JohnDoe\_26, Simpson\_28, Flutur\_26, Joemato\_26
- Track 9 : Turab\_26, Amploria\_26, Adumb2043\_26, AEgle\_26
- Track 10 : Pumpkins\_26
- Track 11 : Phives\_28
- Track 12 : Mudpuppy\_26
- Track 13 : Ascela\_26, Iter\_26
- Track 14 : Tutumahutu\_26
- Track 15 : Kaylissa\_26, Lego\_26
- Track 16 : Tbone\_26, Warda\_26
- Track 17 : Community\_27, Tuck\_28
- Track 18 : Nitro\_27
- Track 19 : Tian\_27, Amyev\_27, Pixelle\_27
- Track 20 : MissSwiss\_25, PandaPo\_25
- Track 21 : Reedo\_26
- Track 22 : Schaffner\_26
- Track 23 : JuneStar\_27
- Track 24 : Yang\_26
- Track 25 : Adolin\_25, DrManhattan\_25
- Track 26 : KeAlii\_27
- Track 27 : IttyBittyPiggy\_26
- Track 28 : Janeemi\_28
- Track 29 : Lizalica\_26
- Track 30 : DrSierra\_26
- Track 31 : VResidence\_27
- Track 32 : Berrie\_27

- Track 33 : Tallboi\_27
- Track 34 : TforTroy\_27
- Track 35 : Sue2\_28
- Track 36 : IUFootball\_26, Maureen\_26, Liebe\_26
- Track 37 : MaGuCo\_25
- Track 38 : Snek\_27, Tweety19\_27
- Track 39 : ShakeltOph\_28
- Track 40 : Origami\_29, LadyAstra\_29
- Track 41 : FiveHead\_31
- Track 42 : VroomVroom\_28
- Track 43 : Emotion\_28
- Track 44 : JasmineDragon\_28, MiniMommy\_28
- Track 45 : AceofSpades\_28
- Track 46 : JohnThicc\_30
- Track 47 : Gumpizza\_26, Ashes\_26, SpecialK\_26, Stuu\_26, Moss\_26, Beaupre\_26, Mysterium\_26, RockScotty\_26
- Track 48 : Sabourin\_26, Donkey\_26, Sooty\_26, Kalimba\_26, Cappuccino\_26, Gambol\_26
- Track 49 : Halsey\_26
- Track 50 : Giorgio\_26
- Track 51 : Soondubu\_26
- Track 52 : Exile\_26
- Track 53 : AinMach\_26
- Track 54 : SPB78\_49
- Track 55 : VWB\_39
- Track 56 : phiBT1\_1
- Track 57 : Lilbooboo\_24
- Track 58 : Vash\_24
- Track 59 : Euratis\_24
- Track 60 : Shawty\_23
- Track 61 : Samora\_24
- Track 62 : TG1\_23
- Track 63 : Sebastisaurus\_24
- Track 64 : Heather\_24
- Track 65 : RemusLoopin\_24
- Track 66 : Dubu\_23
- Track 67 : phiSASD1\_1
- Track 68 : AbbeyMikolon\_28
- Track 69 : Rowa\_30
- Track 70 : Nesbitt\_28
- Track 71 : Frokostdame\_57
- Track 72 : Celaena\_26
- Track 73 : Nicky22\_31, Slay\_30
- Track 74 : Burritobowl\_29, Kenzers\_29, DickRichards\_29, Lynlen\_29, Arroyo\_30, BubbaBear\_29
- Track 75 : SirBeanington\_29
- Track 76 : Clayda5\_26, Rollins\_25, Bernstein\_25, Armstrong\_25
- Track 77 : IndyLu\_28, Eula\_29, Bengal\_29, Phisb\_29, Jabb\_29, AylexOG\_30, MsUbiquitous\_29, TukTuk\_29, Pecas\_29, CupcakePrincess\_29, QMacho\_30, BabyDaisy\_29, SarBear\_29
- Track 78 : Dismas\_26, Rona\_26, ChiliPepper\_26, Kieran\_26
- Track 79 : PastaFagioli\_28, Lahqtemish\_28
- Track 80 : LimaBean\_28, Abigail\_28, Softsoap\_28

- Track 81 : Johnathan\_28
- Track 82 : Teagster\_29, SunnyD\_27, Shayna\_27
- Track 83 : Albedo\_29, AnnaLie\_30, Swervy\_29, BelmontSKP\_30
- Track 84 : Avocadoman\_28
- Track 85 : Eden\_25
- Track 86 : AvGardian\_30
- Track 87 : BabyYoda\_28
- Track 88 : Coltrane\_25, Brahms\_25
- Track 89 : Icarian\_30
- Track 90 : CroZenni\_29
- Track 91 : Akino08\_28
- Track 92 : BAjuniper\_27
- Track 93 : Stoor\_29
- Track 94 : Lilo27\_30
- Track 95 : Didgeridoo\_30
- Track 96 : PhigPhack\_30, SansAfet\_29
- Track 97 : Skylord\_25
- Track 98 : Albright\_28, Doobus\_28, Milomuff\_29, Solea\_30
- Track 99 : Buldak\_29
- Track 100 : WalkingDead\_29
- Track 101 : Kamdara\_26
- Track 102 : FlameThrower\_26, Katzastrophic\_26
- Track 103 : Sharkboy\_27
- Track 104 : Loviatar\_29
- Track 105 : Finalfrontier\_29, Kate33\_28
- Track 106 : Franklin22\_26, Gack\_25
- Track 107 : SanaSana\_30
- Track 108 : Cashington\_28
- Track 109 : DirtyBubble\_28, Stromboli\_28
- Track 110 : CanFranMach\_30
- Track 111 : Olliecat\_29
- Track 112 : Elva\_29
- Track 113 : Quenya\_27
- Track 114 : Jovita\_29
- Track 115 : PondAmelia\_36
- Track 116 : Bachaco\_26
- Track 117 : Vitas\_25
- Track 118 : CliffHanger\_30
- Track 119 : Squirrel\_29
- Track 120 : Wolfstar\_73
- Track 121 : Pioneer3\_68, Tandem\_68, OlinDD\_68, Platte\_68, Hortus1\_68
- Track 122 : Pavlo\_69, DejaVu\_71, PhillyPhilly\_69, Roman\_72, Solimine\_70, Lupine\_68, Uterion\_73
- Track 123 : Hubbs\_70
- Track 124 : Alleb\_68
- Track 125 : Saradis\_71
- Track 126 : Jacko\_71
- Track 127 : Erenyeager\_75, Lyell\_74, Necrophoxinus\_76, Casablanacas\_75, Issa7\_73, Deschain\_75, Fork\_70, RunningBrook\_76, Shroomer\_79, DustyDino\_78, ASegato\_73, Welcome\_76, Yuma\_73, HollowPurple\_75, SteakFry\_77, Musetta\_74
- Track 128 : StevieWelch\_75
- Track 129 : Mistmere\_69
- Track 130 : UtzChips\_26, Barnstormer\_26

- Track 131 : Floof\_26
- Track 132 : IAmGroot\_29
- Track 133 : SuMoo\_26
- Track 134 : GardenState\_29
- Track 135 : SuperHands\_26
- Track 136 : Zeta1847\_26
- Track 137 : Caron\_25
- Track 138 : Cen1621\_25
- Track 139 : Honk\_25
- Track 140 : Gretchen\_27, Forester\_26, Percival\_27
- Track 141 : Mabodamaca\_27
- Track 142 : Mufasa8\_46
- Track 143 : Sunshine23\_48
- Track 144 : Maruru\_46
- Track 145 : Sonali\_46
- Track 146 : Kukla\_52
- Track 147 : PetriParty\_54
- Track 148 : GUPitcher\_51
- Track 149 : SunnyJune\_41
- Track 150 : BlackJade\_45
- Track 151 : Music\_34
- Track 152 : Hirko\_34
- Track 153 : Jinkies\_39
- Track 154 : Gooberta\_34, GoldDust\_34
- Track 155 : Orkz\_42
- Track 156 : Divya\_43
- Track 157 : Vitus\_35
- Track 158 : Vibaki\_34
- Track 159 : CallinAllBarbz\_24
- Track 160 : LisoBros\_28
- Track 161 : Jankie\_25
- Track 162 : GrimEater\_25
- Track 163 : BaileyBlu\_25
- Track 164 : Elfy\_25
- Track 165 : LeeroyJenkins\_79
- Track 166 : WaterT\_75
- Track 167 : BarnCat\_71
- Track 168 : Cassita\_75
- Track 169 : Lifes\_72
- Track 170 : Samy\_34
- Track 171 : DillyDally\_42
- Track 172 : Attoomi\_26
- Track 173 : Sleepyhead\_51
- Track 174 : CN1A\_18
- Track 175 : CMP1\_47

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

The start number called the most often in the published annotations is 58, it was called in 92 of the 238 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle\_26, AGrandiflora\_27, AceofSpades\_28, Adolin\_25, Adumb2043\_26, AinMach\_26, Amploria\_26, Amyev\_27, Asa16\_28, Ascela\_26, Ashes\_26, BaileyBlu\_25, Barnstormer\_26, Beaupre\_26, Berrie\_27, CallinAllBarbz\_24, Cappuccino\_26, Caron\_25, Cassia\_26, Cen1621\_25, Community\_27, Crewmate\_29, Cyan\_26, Donkey\_26, DrManhattan\_25, DrSierra\_26, Elezi\_28, Elfy\_25, Emotion\_28, Eraser\_28, Exile\_26, Flutur\_26, Forester\_26, Frokostdame\_57, Gambol\_26, GardenState\_29, Giorgio\_26, Gretchen\_27, GrimEater\_25, Gumpizza\_26, Halsey\_26, Honk\_25, IAmGroot\_29, IUFootball\_26, Iter\_26, IttyBittyPiggy\_26, Janeemi\_28, Jankie\_25, JasmineDragon\_28, Joemato\_26, JohnDoe\_26, JohnThicc\_30, Jstan\_30, JuneStar\_27, Kalimba\_26, Kaylissa\_26, KeAlii\_27, Lego\_26, Liebe\_26, LisoBros\_28, Lizalica\_26, London\_28, MaGuCo\_25, Mabodamaca\_27, Maureen\_26, Michkear\_29, MiniMommy\_28, MissSwiss\_25, Moss\_26, Mudpuppy\_26, Mysterium\_26, Niobe\_28, Nitro\_27, ObiToo\_28, PandaPo\_25, Percival\_27, Phives\_28, Pixelle\_27, Powerpuff\_26, Pumpkins\_26, Reedo\_26, RockScotty\_26, SPB78\_49, Sabourin\_26, Schaffner\_26, Simpson\_28, Skelbel\_29, Snek\_27, Soondubu\_26, Sooty\_26, SpecialK\_26, Stuu\_26, SuMoo\_26, Subaru\_29, SuperHands\_26, Tallboi\_27, Tbone\_26, TforTroy\_27, ThursdayNight\_26, Tian\_27, Tuck\_28, Turab\_26, Tutumahutu\_26, Tweety19\_27, UtzChips\_26, VResidence\_27, VWB\_39, VroomVroom\_28, Warda\_26, Wildwest\_27, Yang\_26, YesChef\_26, Zeta1847\_26,

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

- FiveHead\_31, Floof\_26, LadyAstra\_29, Origami\_29, ShakeltOph\_28, Sue2\_28,

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

- ASegato\_73, AbbeyMikolon\_28, Abigail\_28, Akino08\_28, Albedo\_29, Albright\_28, Alleb\_68, AnnaLie\_30, Armstrong\_25, Arroyo\_30, Attoomi\_26, AvGardian\_30, Avocadoman\_28, AylexOG\_30, BAjuniper\_27, BabyDaisy\_29, BabyYoda\_28, Bachaco\_26, BarnCat\_71, BelmontSKP\_30, Bengal\_29, Bernstein\_25, BlackJade\_45, Brahms\_25, BubbaBear\_29, Buldak\_29, Burritobowl\_29, CMP1\_47, CN1A\_18, CanFranMach\_30, Casablanacas\_75, Cashington\_28, Cassita\_75, Celaena\_26, ChiliPepper\_26, Clayda5\_26, CliffHanger\_30, Coltrane\_25, CroZenni\_29, CupcakePrincess\_29, DejaVu\_71, Deschain\_75, DickRichards\_29, Didgeridoo\_30, DillyDally\_42, DirtyBubble\_28, Dismas\_26, Divya\_43, Doobus\_28, Dubu\_23, DustyDino\_78, Eden\_25, Elva\_29, Erenyeager\_75, Eula\_29, Euratis\_24, Finalfrontier\_29, FlameThrower\_26, Fork\_70, Franklin22\_26, GUPitcher\_51, Gack\_25, GoldDust\_34, Gooberta\_34, Heather\_24, Hirko\_34, HollowPurple\_75, Hortus1\_68, Hubbs\_70, Icarian\_30, IndyLu\_28, Issa7\_73, Jabb\_29, Jacko\_71, Jinkies\_39, Johnathan\_28, Jovita\_29, Kamdara\_26, Kate33\_28, Katzastrophic\_26, Kenzers\_29, Kieran\_26, Kukla\_52, Lahqtemish\_28, LeeroyJenkins\_79, Lifes\_72, Lilbooboo\_24, Lilo27\_30, LimaBean\_28, Loviatar\_29, Lupine\_68, Lyell\_74, Lynlen\_29, Maruru\_46, Milomuff\_29, Mistmere\_69, MsUbiquitous\_29, Mufasa8\_46, Musetta\_74, Music\_34, Necrophoxinus\_76, Nesbitt\_28, Nicky22\_31, OlinDD\_68, Olliecat\_29, Orkz\_42, PastaFagioli\_28, Pavlo\_69, Pecas\_29, PetriParty\_54, PhigPhack\_30, PhillyPhilly\_69, Phisb\_29, Pioneer3\_68, Platte\_68, PondAmelia\_36, QMacho\_30, Quenya\_27, RemusLoopin\_24, Rollins\_25, Roman\_72, Rona\_26, Rowa\_30, RunningBrook\_76, Samora\_24, Samy\_34, SanaSana\_30, SansAfet\_29, SarBear\_29, Saradis\_71, Sebastisaurus\_24, Sharkboy\_27, Shawty\_23, Shayna\_27, Shroomer\_79, SirBeanington\_29, Skylord\_25, Slay\_30, Sleepyhead\_51, Softsoap\_28, Solea\_30, Solimine\_70, Sonali\_46, Squircle\_29, SteakFry\_77, StevieWelch\_75, Stoor\_29, Stromboli\_28, SunnyD\_27, SunnyJune\_41,

Sunshine23\_48, Swervy\_29, TG1\_23, Tandem\_68, Teagster\_29, TukTuk\_29, Uterion\_73, Vash\_24, Vibaki\_34, Vitas\_25, Vitus\_35, WalkingDead\_29, WaterT\_75, Welcome\_76, Wolfstar\_73, Yuma\_73, phiBT1\_1, phiSASD1\_1,

### Summary by start number:

#### Start 32:

- Found in 4 of 287 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CMP1\_47 (singleton), CN1A\_18 (singleton), Lifes\_72 (GB), WaterT\_75 (GB),

#### Start 37:

- Found in 10 of 287 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 40.0% of time when present
- Phage (with cluster) where this start called: FiveHead\_31 (AZ4), LadyAstra\_29 (AZ4), Origami\_29 (AZ4), ShakeltOph\_28 (AZ4),

#### Start 39:

- Found in 3 of 287 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 238
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Buldak\_29 (EB), Squircle\_29 (EB),

#### Start 44:

- Found in 47 of 287 ( 16.4% ) of genes in pham
- Manual Annotations of this start: 29 of 238
- Called 74.5% of time when present
- Phage (with cluster) where this start called: ASegato\_73 (ED2), Alleb\_68 (ED1), Casablancas\_75 (ED2), DejaVu\_71 (ED1), Deschain\_75 (ED2), DustyDino\_78 (ED2), Erenyeager\_75 (ED2), Fork\_70 (ED2), HollowPurple\_75 (ED2), Hortus1\_68 (ED1), Hubbs\_70 (ED1), Issa7\_73 (ED2), Jacko\_71 (ED1), Lupine\_68 (ED1), Lyell\_74 (ED2), Mistmere\_69 (ED3), Musetta\_74 (ED2), Necrophoxinus\_76 (ED2), OlinDD\_68 (ED1), Pavlo\_69 (ED1), PhillyPhilly\_69 (ED1), Pioneer3\_68 (ED1), Platte\_68 (ED1), Roman\_72 (ED1), RunningBrook\_76 (ED2), Saradis\_71 (ED1), Shroomer\_79 (ED2), Solimine\_70 (ED1), SteakFry\_77 (ED2), StevieWelch\_75 (ED2), Tandem\_68 (ED1), Uterion\_73 (ED1), Welcome\_76 (ED2), Wolfstar\_73 (ED), Yuma\_73 (ED2),

#### Start 45:

- Found in 8 of 287 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 2 of 238
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Floof\_26 (EH), Sue2\_28 (AZ1),

#### Start 47:

- Found in 11 of 287 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 5 of 238
- Called 72.7% of time when present
- Phage (with cluster) where this start called: BlackJade\_45 (FL), Divya\_43 (FL), Hirko\_34 (FL), Jinkies\_39 (FL), Orkz\_42 (FL), SunnyJune\_41 (FL), Vibaki\_34 (FL), Vitus\_35 (FL),

Start 48:

- Found in 7 of 287 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 4 of 238
- Called 57.1% of time when present
- Phage (with cluster) where this start called: CliffHanger\_30 (EB), Shayna\_27 (EB), SunnyD\_27 (EB), Teagster\_29 (EB),

Start 50:

- Found in 84 of 287 ( 29.3% ) of genes in pham
- Manual Annotations of this start: 64 of 238
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Abigail\_28 (EB), Akino08\_28 (EB), Albedo\_29 (EB), Albright\_28 (EB), AnnaLie\_30 (EB), Arroyo\_30 (EB), AvGardian\_30 (EB), Avocadoman\_28 (EB), AylexOG\_30 (EB), BAjuniper\_27 (EB), BabyDaisy\_29 (EB), BabyYoda\_28 (EB), Bachaco\_26 (EB), BelmontSKP\_30 (EB), Bengal\_29 (EB), BubbaBear\_29 (EB), Burritobowl\_29 (EB), CanFranMach\_30 (EB), Cashington\_28 (EB), Celaena\_26 (EB), ChiliPepper\_26 (EB), CroZenni\_29 (EB), CupcakePrincess\_29 (EB), DickRichards\_29 (EB), Didgeridoo\_30 (EB), DirtyBubble\_28 (EB), Dismas\_26 (EB), Doobus\_28 (EB), Elva\_29 (EB), Eula\_29 (EB), Finalfrontier\_29 (EB), FlameThrower\_26 (EB), Icarian\_30 (EB), IndyLu\_28 (EB), Jabb\_29 (EB), Johnathan\_28 (EB), Jovita\_29 (EB), Kamdara\_26 (EB), Kate33\_28 (EB), Katzastrophic\_26 (EB), Kenzers\_29 (EB), Kieran\_26 (EB), Lahqtemish\_28 (EB), Lilo27\_30 (EB), LimaBean\_28 (EB), Loviatar\_29 (EB), Lynlen\_29 (EB), Milomuff\_29 (EB), MsUbiquitous\_29 (EB), Nicky22\_31 (EB), Olliecat\_29 (EB), PastaFagioli\_28 (EB), Pecas\_29 (EB), PhigPhack\_30 (EB), Phisb\_29 (EB), PondAmelia\_36 (EB), QMacho\_30 (EB), Quenya\_27 (EB), Rona\_26 (EB), SanaSana\_30 (EB), SansAfet\_29 (EB), SarBear\_29 (EB), Sharkboy\_27 (EB), SirBeanington\_29 (EB), Slay\_30 (EB), Softsoap\_28 (EB), Solea\_30 (EB), Stoor\_29 (EB), Stromboli\_28 (EB), Swervy\_29 (EB), TukTuk\_29 (EB), WalkingDead\_29 (EB),

Start 52:

- Found in 6 of 287 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 50.0% of time when present
- Phage (with cluster) where this start called: GUPitcher\_51 (FJ), Kukla\_52 (FJ), PetriParty\_54 (FJ),

Start 53:

- Found in 11 of 287 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 11 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Armstrong\_25 (EB), Bernstein\_25 (EB), Brahms\_25 (EB), Clayda5\_26 (EB), Coltrane\_25 (EB), Eden\_25 (EB), Franklin22\_26 (EB), Gack\_25 (EB), Rollins\_25 (EB), Skylord\_25 (EB), Vitas\_25 (EB),

Start 56:

- Found in 2 of 287 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BarnCat\_71 (GB),

Start 57:

- Found in 1 of 287 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead\_51 (singleton),

#### Start 58:

- Found in 119 of 287 ( 41.5% ) of genes in pham
- Manual Annotations of this start: 92 of 238
- Called 95.0% of time when present
- Phage (with cluster) where this start called: AEgle\_26 (AZ1), AGrandiflora\_27 (AZ1), AceofSpades\_28 (AZ4), Adolin\_25 (AZ1), Adumb2043\_26 (AZ1), AinMach\_26 (AZ7), Amploria\_26 (AZ1), Amyev\_27 (AZ1), Asa16\_28 (AZ1), Ascela\_26 (AZ1), Ashes\_26 (AZ5), BaileyBlu\_25 (FP), Barnstormer\_26 (EH), Beaupre\_26 (AZ5), Berrie\_27 (AZ1), CallinAllBarbz\_24 (FP), Cappuccino\_26 (AZ5), Caron\_25 (EH), Cassia\_26 (AZ1), Cen1621\_25 (EH), Community\_27 (AZ1), Crewmate\_29 (AZ1), Cyan\_26 (AZ1), Donkey\_26 (AZ5), DrManhattan\_25 (AZ1), DrSierra\_26 (AZ1), Elezi\_28 (AZ1), Elfy\_25 (FP), Emotion\_28 (AZ4), Eraser\_28 (AZ1), Exile\_26 (AZ6), Flutur\_26 (AZ), Forester\_26 (EH), Frokostdame\_57 (CV), Gambol\_26 (AZ5), GardenState\_29 (EH), Giorgio\_26 (AZ5), Gretchen\_27 (EH), GrimEater\_25 (FP), Gumpizza\_26 (AZ5), Halsey\_26 (AZ5), Honk\_25 (EH), IAmGroot\_29 (EH), IUFootball\_26 (AZ2), Iter\_26 (AZ1), IttyBittyPiggy\_26 (AZ1), Janeemi\_28 (AZ1), Jankie\_25 (FP), JasmineDragon\_28 (AZ4), Joemato\_26 (AZ1), JohnDoe\_26 (AZ1), JohnThicc\_30 (AZ4), Jstan\_30 (AZ1), JuneStar\_27 (AZ1), Kalimba\_26 (AZ5), Kaylissa\_26 (AZ1), KeAlii\_27 (AZ1), Lego\_26 (AZ1), Liebe\_26 (AZ2), LisoBros\_28 (FP), Lizalica\_26 (AZ1), London\_28 (AZ1), MaGuCo\_25 (AZ2), Mabodamaca\_27 (EH), Maureen\_26 (AZ2), Michkear\_29 (AZ), MiniMommy\_28 (AZ4), MissSwiss\_25 (AZ1), Moss\_26 (AZ5), Mudpuppy\_26 (AZ1), Mysterium\_26 (AZ5), Niobe\_28 (AZ1), Nitro\_27 (AZ1), ObiToo\_28 (AZ1), PandaPo\_25 (AZ1), Percival\_27 (EH), Phives\_28 (AZ1), Pixelle\_27 (AZ1), Powerpuff\_26 (AZ1), Pumpkins\_26 (AZ1), Reedo\_26 (AZ1), RockScotty\_26 (AZ5), SPB78\_49 (BA), Sabourin\_26 (AZ5), Schaffner\_26 (AZ1), Simpson\_28 (AZ1), Skelbel\_29 (AZ1), Snek\_27 (AZ3), Soondubu\_26 (AZ6), Sooty\_26 (AZ5), SpecialK\_26 (AZ5), Stuu\_26 (AZ5), SuMoo\_26 (EH), Subaru\_29 (AZ1), SuperHands\_26 (EH), Tallboi\_27 (AZ1), Tbone\_26 (AZ1), TforTroy\_27 (AZ1), ThursdayNight\_26 (AZ), Tian\_27 (AZ1), Tuck\_28 (AZ1), Turab\_26 (AZ1), Tutumahutu\_26 (AZ1), Tweety19\_27 (AZ3), UtzChips\_26 (EH), VResidence\_27 (AZ1), VWB\_39 (BA), VroomVroom\_28 (AZ4), Warda\_26 (AZ1), Wildwest\_27 (AZ1), Yang\_26 (AZ1), YesChef\_26 (AZ1), Zeta1847\_26 (EH),

#### Start 59:

- Found in 1 of 287 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: phiSASD1\_1 (BJ),

#### Start 60:

- Found in 14 of 287 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 13 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attoomi\_26 (singleton), Dubu\_23 (BJ), Euratis\_24 (BB1), Heather\_24 (BB2), Lilbooboo\_24 (BB1), RemusLoopin\_24 (BB2), Rowa\_30 (BL), Samora\_24 (BB1), Samy\_34 (singleton), Sebastisaurus\_24 (BB2), Shawty\_23 (BB1), TG1\_23 (BB1), Vash\_24 (BB1), phiBT1\_1 (BB1),

Start 61:

- Found in 10 of 287 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 2 of 238
- Called 30.0% of time when present
- Phage (with cluster) where this start called: GoldDust\_34 (FL), Gooberta\_34 (FL), Music\_34 (FL),

Start 62:

- Found in 2 of 287 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon\_28 (BL), Nesbitt\_28 (BL),

Start 64:

- Found in 23 of 287 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 3 of 238
- Called 17.4% of time when present
- Phage (with cluster) where this start called: Maruru\_46 (FG), Mufasa8\_46 (FG), Sonali\_46 (FG), Sunshine23\_48 (FG),

Start 65:

- Found in 5 of 287 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 2 of 238
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Cassita\_75 (GB), LeeroyJenkins\_79 (GB),

Start 68:

- Found in 1 of 287 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 238
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DillyDally\_42 (singleton),

**Summary by clusters:**

There are 26 clusters represented in this pham: FP, singleton, BA, BL, BJ, ED2, ED3, ED1, FG, FJ, FL, BB2, BB1, EH, ED, EB, GB, AZ, CV, AZ1, AZ2, AZ3, AZ4, AZ5, AZ6, AZ7,

Info for manual annotations of cluster AZ1:

- Start number 45 was manually annotated 1 time for cluster AZ1.
- Start number 58 was manually annotated 45 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 58 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 58 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 37 was manually annotated 1 time for cluster AZ4.
- Start number 58 was manually annotated 4 times for cluster AZ4.

Info for manual annotations of cluster AZ5:

- Start number 58 was manually annotated 16 times for cluster AZ5.

Info for manual annotations of cluster AZ6:

- Start number 58 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster BB1:

- Start number 60 was manually annotated 6 times for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 60 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster BJ:

- Start number 60 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster BL:

- Start number 60 was manually annotated 1 time for cluster BL.
- Start number 62 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster CV:

- Start number 58 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster EB:

- Start number 39 was manually annotated 2 times for cluster EB.
- Start number 48 was manually annotated 4 times for cluster EB.
- Start number 50 was manually annotated 64 times for cluster EB.
- Start number 53 was manually annotated 11 times for cluster EB.

Info for manual annotations of cluster ED:

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

Info for manual annotations of cluster ED1:

- Start number 44 was manually annotated 13 times for cluster ED1.

Info for manual annotations of cluster ED2:

- Start number 44 was manually annotated 15 times for cluster ED2.

Info for manual annotations of cluster EH:

- Start number 45 was manually annotated 1 time for cluster EH.
- Start number 58 was manually annotated 14 times for cluster EH.

Info for manual annotations of cluster FG:

- Start number 64 was manually annotated 3 times for cluster FG.

Info for manual annotations of cluster FJ:

- Start number 52 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FL:

- Start number 47 was manually annotated 5 times for cluster FL.

- Start number 61 was manually annotated 2 times for cluster FL.

Info for manual annotations of cluster FP:

- Start number 58 was manually annotated 6 times for cluster FP.

Info for manual annotations of cluster GB:

- Start number 32 was manually annotated 2 times for cluster GB.
- Start number 56 was manually annotated 1 time for cluster GB.
- Start number 65 was manually annotated 2 times for cluster GB.

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

Gene: AEgle\_26 Start: 21448, Stop: 22278, Start Num: 58

Candidate Starts for AEgle\_26:

(Start: 58 @21448 has 92 MA's), (77, 21526), (84, 21553), (95, 21610), (99, 21631), (101, 21637), (121, 21748), (150, 21850), (199, 22042), (204, 22066),

Gene: AGrandiflora\_27 Start: 21481, Stop: 22308, Start Num: 58

Candidate Starts for AGrandiflora\_27:

(Start: 58 @21481 has 92 MA's), (84, 21586), (85, 21589), (99, 21664), (101, 21670), (121, 21781), (127, 21808), (150, 21883), (199, 22075), (204, 22099),

Gene: ASegato\_73 Start: 42743, Stop: 41883, Start Num: 44

Candidate Starts for ASegato\_73:

(Start: 44 @42743 has 29 MA's), (83, 42626), (103, 42530), (132, 42374), (155, 42290), (189, 42182), (213, 42071), (219, 42056), (225, 42035), (244, 41978),

Gene: AbbeyMikolon\_28 Start: 21726, Stop: 22598, Start Num: 62

Candidate Starts for AbbeyMikolon\_28:

(Start: 62 @21726 has 2 MA's), (69, 21768), (84, 21819), (92, 21858), (95, 21876), (101, 21903), (102, 21906), (108, 21933), (136, 22113), (138, 22122), (143, 22143), (162, 22215), (177, 22260), (190, 22335), (194, 22362), (204, 22416), (216, 22455), (224, 22473),

Gene: Abigail\_28 Start: 21092, Stop: 21970, Start Num: 50

Candidate Starts for Abigail\_28:

(Start: 50 @21092 has 64 MA's), (93, 21254), (132, 21461), (133, 21464), (141, 21494), (160, 21569), (181, 21638), (187, 21674), (188, 21686), (214, 21812),

Gene: AceofSpades\_28 Start: 21554, Stop: 22393, Start Num: 58

Candidate Starts for AceofSpades\_28:

(Start: 45 @21518 has 2 MA's), (Start: 58 @21554 has 92 MA's), (84, 21659), (101, 21743), (121, 21854), (224, 22229), (231, 22250),

Gene: Adolin\_25 Start: 19890, Stop: 20729, Start Num: 58

Candidate Starts for Adolin\_25:

(40, 19842), (Start: 58 @19890 has 92 MA's), (77, 19968), (84, 19995), (85, 19998), (101, 20079), (108, 20109), (121, 20193), (150, 20295), (198, 20481), (199, 20487),

Gene: Adumb2043\_26 Start: 21447, Stop: 22277, Start Num: 58

Candidate Starts for Adumb2043\_26:

(Start: 58 @21447 has 92 MA's), (77, 21525), (84, 21552), (95, 21609), (99, 21630), (101, 21636), (121, 21747), (150, 21849), (199, 22041), (204, 22065),

Gene: AinMach\_26 Start: 21970, Stop: 22809, Start Num: 58

Candidate Starts for AinMach\_26:

(29, 21880), (36, 21901), (Start: 58 @21970 has 92 MA's), (75, 22042), (84, 22075), (85, 22078), (101, 22159), (121, 22270), (150, 22372), (184, 22456), (198, 22558), (199, 22564), (204, 22588), (224, 22645), (241, 22696), (245, 22711),

Gene: Akino08\_28 Start: 22632, Stop: 23558, Start Num: 50

Candidate Starts for Akino08\_28:

(Start: 50 @22632 has 64 MA's), (79, 22737), (93, 22797), (116, 22917), (141, 23037), (179, 23175), (181, 23181), (188, 23229), (206, 23331), (214, 23355), (268, 23547), (270, 23550),

Gene: Albedo\_29 Start: 21558, Stop: 22436, Start Num: 50

Candidate Starts for Albedo\_29:

(Start: 50 @21558 has 64 MA's), (93, 21720), (132, 21927), (133, 21930), (141, 21960), (181, 22104), (187, 22140), (188, 22152), (214, 22278),

Gene: Albright\_28 Start: 20850, Stop: 21722, Start Num: 50

Candidate Starts for Albright\_28:

(Start: 50 @20850 has 64 MA's), (93, 21012), (132, 21219), (133, 21222), (141, 21252), (160, 21327), (181, 21396), (187, 21432), (188, 21444),

Gene: Alleb\_68 Start: 42903, Stop: 42067, Start Num: 44

Candidate Starts for Alleb\_68:

(Start: 44 @42903 has 29 MA's), (83, 42789), (85, 42780), (109, 42672), (132, 42540), (142, 42501), (155, 42456), (157, 42441), (173, 42396), (189, 42348), (223, 42210), (244, 42141),

Gene: Amploria\_26 Start: 21447, Stop: 22277, Start Num: 58

Candidate Starts for Amploria\_26:

(Start: 58 @21447 has 92 MA's), (77, 21525), (84, 21552), (95, 21609), (99, 21630), (101, 21636), (121, 21747), (150, 21849), (199, 22041), (204, 22065),

Gene: Amyev\_27 Start: 23372, Stop: 24199, Start Num: 58

Candidate Starts for Amyev\_27:

(Start: 52 @23357 has 1 MA's), (Start: 58 @23372 has 92 MA's), (84, 23477), (99, 23555), (101, 23561), (121, 23672), (199, 23966),

Gene: AnnaLie\_30 Start: 21841, Stop: 22719, Start Num: 50

Candidate Starts for AnnaLie\_30:

(Start: 50 @21841 has 64 MA's), (93, 22003), (132, 22210), (133, 22213), (141, 22243), (181, 22387), (187, 22423), (188, 22435), (214, 22561),

Gene: Armstrong\_25 Start: 19307, Stop: 20188, Start Num: 53

Candidate Starts for Armstrong\_25:

(Start: 53 @19307 has 11 MA's), (Start: 64 @19337 has 3 MA's), (93, 19466), (112, 19550), (120, 19610), (125, 19637), (133, 19676), (181, 19859), (187, 19895), (214, 20033), (227, 20066), (250, 20150),

Gene: Arroyo\_30 Start: 22039, Stop: 22911, Start Num: 50

Candidate Starts for Arroyo\_30:

(Start: 50 @22039 has 64 MA's), (93, 22201), (132, 22408), (133, 22411), (141, 22441), (181, 22585), (187, 22621), (188, 22633), (214, 22759),

Gene: Asa16\_28 Start: 23617, Stop: 24447, Start Num: 58

Candidate Starts for Asa16\_28:

(Start: 58 @23617 has 92 MA's), (84, 23722), (99, 23800), (101, 23806), (121, 23917), (133, 23968), (150, 24019), (199, 24211), (204, 24235),

Gene: Ascela\_26 Start: 21460, Stop: 22293, Start Num: 58

Candidate Starts for Ascela\_26:

(Start: 58 @21460 has 92 MA's), (84, 21565), (85, 21568), (99, 21643), (101, 21649), (121, 21760), (133, 21811), (199, 22054), (204, 22078),

Gene: Ashes\_26 Start: 20152, Stop: 20988, Start Num: 58

Candidate Starts for Ashes\_26:

(Start: 44 @20110 has 29 MA's), (Start: 50 @20128 has 64 MA's), (Start: 58 @20152 has 92 MA's), (84, 20251), (116, 20413), (121, 20446), (129, 20485), (190, 20683), (199, 20740), (203, 20761), (204, 20764), (234, 20854),

Gene: Attoomi\_26 Start: 21271, Stop: 22065, Start Num: 60

Candidate Starts for Attoomi\_26:

(Start: 60 @21271 has 13 MA's), (69, 21316), (79, 21349), (84, 21367), (92, 21406), (93, 21409), (95, 21424), (99, 21445), (103, 21457), (108, 21478), (119, 21550), (125, 21580), (152, 21676), (171, 21739), (183, 21745), (187, 21775), (188, 21787), (198, 21853), (199, 21859), (227, 21949), (234, 21970), (241, 21991), (243, 22003), (248, 22018),

Gene: AvGardian\_30 Start: 21901, Stop: 22776, Start Num: 50

Candidate Starts for AvGardian\_30:

(11, 21733), (Start: 50 @21901 has 64 MA's), (79, 22003), (93, 22063), (133, 22273), (141, 22303), (168, 22405), (181, 22447), (188, 22495),

Gene: Avocadoman\_28 Start: 21034, Stop: 21912, Start Num: 50

Candidate Starts for Avocadoman\_28:

(17, 20935), (Start: 50 @21034 has 64 MA's), (93, 21196), (132, 21403), (133, 21406), (141, 21436), (160, 21511), (181, 21580), (187, 21616), (188, 21628),

Gene: AylexOG\_30 Start: 21869, Stop: 22747, Start Num: 50

Candidate Starts for AylexOG\_30:

(Start: 50 @21869 has 64 MA's), (93, 22031), (132, 22238), (133, 22241), (141, 22271), (168, 22373), (181, 22415), (187, 22451), (188, 22463), (214, 22589),

Gene: BAjuniper\_27 Start: 22228, Stop: 23160, Start Num: 50

Candidate Starts for BAjuniper\_27:

(Start: 50 @22228 has 64 MA's), (79, 22330), (120, 22534), (133, 22600), (141, 22630), (181, 22774), (204, 22915), (214, 22948), (260, 23110), (268, 23149),

Gene: BabyDaisy\_29 Start: 21585, Stop: 22454, Start Num: 50

Candidate Starts for BabyDaisy\_29:

(Start: 50 @21585 has 64 MA's), (93, 21744), (132, 21951), (133, 21954), (141, 21984), (168, 22086), (181, 22128), (187, 22164), (188, 22176), (214, 22302),

Gene: BabyYoda\_28 Start: 21834, Stop: 22760, Start Num: 50

Candidate Starts for BabyYoda\_28:

(Start: 50 @21834 has 64 MA's), (79, 21939), (93, 21999), (116, 22119), (141, 22239), (181, 22383), (187, 22419), (188, 22431), (268, 22749), (270, 22752),

Gene: Bachaco\_26 Start: 22486, Stop: 23376, Start Num: 50

Candidate Starts for Bachaco\_26:

(14, 22351), (Start: 50 @22486 has 64 MA's), (79, 22588), (120, 22792), (133, 22858), (181, 23032), (187, 23068), (188, 23080), (204, 23173), (206, 23182), (214, 23206),

Gene: BaileyBlu\_25 Start: 20669, Stop: 21496, Start Num: 58

Candidate Starts for BaileyBlu\_25:

(Start: 58 @20669 has 92 MA's), (84, 20774), (85, 20777), (93, 20816), (101, 20858), (121, 20969), (150, 21071), (199, 21263), (204, 21287), (234, 21374),

Gene: BarnCat\_71 Start: 43640, Stop: 42804, Start Num: 56

Candidate Starts for BarnCat\_71:

(55, 43643), (Start: 56 @43640 has 1 MA's), (Start: 64 @43619 has 3 MA's), (80, 43553), (102, 43466), (110, 43442), (114, 43421), (132, 43316), (137, 43298), (152, 43250), (163, 43208), (184, 43184), (187, 43160), (190, 43136), (194, 43109), (196, 43103), (202, 43067), (226, 42980), (227, 42977), (259, 42854), (266, 42830),

Gene: Barnstormer\_26 Start: 21235, Stop: 22050, Start Num: 58

Candidate Starts for Barnstormer\_26:

(Start: 58 @21235 has 92 MA's), (97, 21409), (102, 21424), (110, 21454), (121, 21532), (125, 21550), (150, 21634), (184, 21718), (204, 21850), (224, 21907), (245, 21970), (248, 21982),

Gene: Beaupre\_26 Start: 20153, Stop: 20989, Start Num: 58

Candidate Starts for Beaupre\_26:

(Start: 44 @20111 has 29 MA's), (Start: 50 @20129 has 64 MA's), (Start: 58 @20153 has 92 MA's), (84, 20252), (116, 20414), (121, 20447), (129, 20486), (190, 20684), (199, 20741), (203, 20762), (204, 20765), (234, 20855),

Gene: BelmontSKP\_30 Start: 21841, Stop: 22719, Start Num: 50

Candidate Starts for BelmontSKP\_30:

(Start: 50 @21841 has 64 MA's), (93, 22003), (132, 22210), (133, 22213), (141, 22243), (181, 22387), (187, 22423), (188, 22435), (214, 22561),

Gene: Bengal\_29 Start: 21427, Stop: 22305, Start Num: 50

Candidate Starts for Bengal\_29:

(Start: 50 @21427 has 64 MA's), (93, 21589), (132, 21796), (133, 21799), (141, 21829), (168, 21931), (181, 21973), (187, 22009), (188, 22021), (214, 22147),

Gene: Bernstein\_25 Start: 19362, Stop: 20243, Start Num: 53

Candidate Starts for Bernstein\_25:

(Start: 53 @19362 has 11 MA's), (Start: 64 @19392 has 3 MA's), (93, 19521), (112, 19605), (120, 19665), (125, 19692), (133, 19731), (181, 19914), (187, 19950), (214, 20088), (227, 20121), (250, 20205),

Gene: Berrie\_27 Start: 22583, Stop: 23416, Start Num: 58

Candidate Starts for Berrie\_27:

(Start: 58 @22583 has 92 MA's), (77, 22661), (79, 22670), (84, 22688), (85, 22691), (99, 22766), (101, 22772), (121, 22883), (133, 22934), (150, 22985), (198, 23171), (199, 23177), (204, 23201),

Gene: BlackJade\_45 Start: 31005, Stop: 31841, Start Num: 47

Candidate Starts for BlackJade\_45:

(Start: 47 @31005 has 5 MA's), (49, 31011), (87, 31146), (92, 31164), (107, 31242), (118, 31308), (210, 31653), (242, 31734),

Gene: Brahms\_25 Start: 19309, Stop: 20190, Start Num: 53

Candidate Starts for Brahms\_25:

(Start: 53 @19309 has 11 MA's), (Start: 64 @19339 has 3 MA's), (93, 19468), (108, 19537), (112, 19552), (120, 19612), (125, 19639), (133, 19678), (181, 19861), (187, 19897), (214, 20035), (227, 20068), (250, 20152),

Gene: BubbaBear\_29 Start: 21529, Stop: 22401, Start Num: 50

Candidate Starts for BubbaBear\_29:

(Start: 50 @21529 has 64 MA's), (93, 21691), (132, 21898), (133, 21901), (141, 21931), (181, 22075), (187, 22111), (188, 22123), (214, 22249),

Gene: Buldak\_29 Start: 20870, Stop: 21808, Start Num: 39

Candidate Starts for Buldak\_29:

(5, 20699), (8, 20714), (Start: 39 @20870 has 2 MA's), (Start: 48 @20900 has 4 MA's), (Start: 50 @20906 has 64 MA's), (70, 20990), (93, 21074), (108, 21143), (120, 21218), (125, 21245), (129, 21272), (132, 21281), (133, 21284), (138, 21305), (150, 21335), (162, 21392), (168, 21416), (169, 21419), (198, 21569), (203, 21596), (204, 21599), (214, 21632), (248, 21734), (257, 21785),

Gene: Burritobowl\_29 Start: 21596, Stop: 22468, Start Num: 50

Candidate Starts for Burritobowl\_29:

(Start: 50 @21596 has 64 MA's), (93, 21758), (132, 21965), (133, 21968), (141, 21998), (181, 22142), (187, 22178), (188, 22190), (214, 22316),

Gene: CMP1\_47 Start: 45048, Stop: 44038, Start Num: 32

Candidate Starts for CMP1\_47:

(Start: 32 @45048 has 2 MA's), (73, 44898), (78, 44880), (88, 44835), (91, 44823), (100, 44781), (121, 44670), (132, 44619), (153, 44532), (159, 44493), (184, 44445), (195, 44367), (197, 44358), (199, 44334), (220, 44268), (225, 44253), (233, 44226), (251, 44160), (269, 44073),

Gene: CN1A\_18 Start: 10315, Stop: 11211, Start Num: 32

Candidate Starts for CN1A\_18:

(7, 10186), (24, 10297), (Start: 32 @10315 has 2 MA's), (42, 10351), (63, 10411), (72, 10453), (80, 10477), (103, 10564), (109, 10576), (114, 10603), (118, 10636), (135, 10720), (136, 10723), (147, 10768), (148, 10771), (152, 10786), (165, 10837), (170, 10846), (187, 10882), (198, 10963), (208, 10990), (225, 11047), (230, 11065), (245, 11113), (246, 11119), (263, 11191),

Gene: CallinAllBarbz\_24 Start: 20698, Stop: 21528, Start Num: 58

Candidate Starts for CallinAllBarbz\_24:

(Start: 58 @20698 has 92 MA's), (84, 20803), (85, 20806), (99, 20881), (101, 20887), (127, 21025), (150, 21100), (198, 21286), (199, 21292), (204, 21316), (212, 21346), (234, 21403),

Gene: CanFranMach\_30 Start: 21544, Stop: 22419, Start Num: 50

Candidate Starts for CanFranMach\_30:

(Start: 50 @21544 has 64 MA's), (79, 21643), (93, 21703), (120, 21847), (125, 21874), (141, 21943), (168, 22045), (181, 22087), (187, 22123), (188, 22135),

Gene: Cappuccino\_26 Start: 20061, Stop: 20897, Start Num: 58

Candidate Starts for Cappuccino\_26:

(Start: 58 @20061 has 92 MA's), (79, 20142), (84, 20160), (116, 20322), (121, 20355), (129, 20394), (141, 20436), (190, 20592), (199, 20649), (203, 20670), (204, 20673), (224, 20730), (234, 20763),

Gene: Caron\_25 Start: 20308, Stop: 21123, Start Num: 58

Candidate Starts for Caron\_25:

(Start: 58 @20308 has 92 MA's), (102, 20497), (110, 20527), (121, 20605), (125, 20623), (150, 20707), (184, 20791), (204, 20923), (224, 20980), (245, 21043), (248, 21055),

Gene: Casablanacas\_75 Start: 42483, Stop: 41623, Start Num: 44

Candidate Starts for Casablanacas\_75:

(Start: 44 @42483 has 29 MA's), (83, 42366), (103, 42270), (132, 42114), (155, 42030), (189, 41922), (213, 41811), (219, 41796), (225, 41775), (244, 41718),

Gene: Cashington\_28 Start: 20885, Stop: 21757, Start Num: 50

Candidate Starts for Cashington\_28:

(Start: 50 @20885 has 64 MA's), (93, 21047), (132, 21254), (133, 21257), (141, 21287), (160, 21362), (181, 21431), (187, 21467), (188, 21479), (214, 21605),

Gene: Cassia\_26 Start: 21909, Stop: 22739, Start Num: 58

Candidate Starts for Cassia\_26:

(Start: 58 @21909 has 92 MA's), (Start: 64 @21924 has 3 MA's), (84, 22014), (95, 22071), (99, 22092), (101, 22098), (111, 22134), (121, 22209), (188, 22434), (199, 22503),

Gene: Cassita\_75 Start: 44392, Stop: 43580, Start Num: 65

Candidate Starts for Cassita\_75:

(Start: 65 @44392 has 2 MA's), (67, 44374), (72, 44359), (80, 44335), (102, 44248), (110, 44224), (113, 44206), (115, 44200), (132, 44098), (133, 44095), (137, 44080), (152, 44032), (184, 43966), (187, 43942), (194, 43891), (196, 43885), (226, 43756), (227, 43753), (259, 43630), (266, 43606),

Gene: Celaena\_26 Start: 22171, Stop: 23061, Start Num: 50

Candidate Starts for Celaena\_26:

(Start: 50 @22171 has 64 MA's), (79, 22273), (120, 22477), (133, 22543), (181, 22717), (187, 22753), (188, 22765), (204, 22858), (206, 22867), (214, 22891),

Gene: Cen1621\_25 Start: 19802, Stop: 20638, Start Num: 58

Candidate Starts for Cen1621\_25:

(Start: 45 @19769 has 2 MA's), (Start: 58 @19802 has 92 MA's), (82, 19898), (84, 19904), (92, 19943), (101, 19988), (125, 20117), (150, 20201), (206, 20426), (227, 20483),

Gene: ChiliPepper\_26 Start: 21822, Stop: 22757, Start Num: 50

Candidate Starts for ChiliPepper\_26:

(Start: 50 @21822 has 64 MA's), (79, 21924), (93, 21984), (120, 22128), (125, 22155), (181, 22368), (188, 22416), (206, 22518), (270, 22749),

Gene: Clayda5\_26 Start: 19296, Stop: 20177, Start Num: 53

Candidate Starts for Clayda5\_26:

(Start: 53 @19296 has 11 MA's), (Start: 64 @19326 has 3 MA's), (93, 19455), (112, 19539), (120, 19599), (125, 19626), (133, 19665), (181, 19848), (187, 19884), (214, 20022), (227, 20055), (250, 20139),

Gene: CliffHanger\_30 Start: 20568, Stop: 21461, Start Num: 48

Candidate Starts for CliffHanger\_30:

(Start: 48 @20568 has 4 MA's), (79, 20667), (93, 20727), (123, 20886), (125, 20898), (132, 20934), (194, 21198), (232, 21333), (261, 21450),

Gene: Coltrane\_25 Start: 19309, Stop: 20190, Start Num: 53

Candidate Starts for Coltrane\_25:

(Start: 53 @19309 has 11 MA's), (Start: 64 @19339 has 3 MA's), (93, 19468), (108, 19537), (112, 19552), (120, 19612), (125, 19639), (133, 19678), (181, 19861), (187, 19897), (214, 20035), (227, 20068), (250, 20152),

Gene: Community\_27 Start: 23698, Stop: 24531, Start Num: 58

Candidate Starts for Community\_27:

(Start: 58 @23698 has 92 MA's), (84, 23803), (85, 23806), (99, 23881), (101, 23887), (121, 23998), (150, 24100), (199, 24292), (204, 24316), (254, 24478), (265, 24520),

Gene: Crewmate\_29 Start: 22203, Stop: 23036, Start Num: 58

Candidate Starts for Crewmate\_29:

(Start: 45 @22170 has 2 MA's), (Start: 58 @22203 has 92 MA's), (Start: 64 @22218 has 3 MA's), (84, 22308), (98, 22383), (101, 22392), (108, 22422), (121, 22506), (199, 22800), (204, 22824),

Gene: CroZenni\_29 Start: 21434, Stop: 22306, Start Num: 50

Candidate Starts for CroZenni\_29:

(Start: 50 @21434 has 64 MA's), (93, 21596), (132, 21803), (133, 21806), (141, 21836), (187, 22016), (188, 22028), (214, 22154),

Gene: CupcakePrincess\_29 Start: 21556, Stop: 22434, Start Num: 50

Candidate Starts for CupcakePrincess\_29:

(Start: 50 @21556 has 64 MA's), (93, 21718), (132, 21925), (133, 21928), (141, 21958), (168, 22060), (181, 22102), (187, 22138), (188, 22150), (214, 22276),

Gene: Cyan\_26 Start: 21540, Stop: 22367, Start Num: 58

Candidate Starts for Cyan\_26:

(Start: 58 @21540 has 92 MA's), (84, 21645), (85, 21648), (99, 21723), (101, 21729), (121, 21840), (127, 21867), (150, 21942), (199, 22134), (204, 22158),

Gene: DejaVu\_71 Start: 42873, Stop: 42037, Start Num: 44

Candidate Starts for DejaVu\_71:

(Start: 44 @42873 has 29 MA's), (83, 42759), (90, 42723), (103, 42666), (107, 42648), (132, 42510), (138, 42486), (155, 42426), (173, 42366), (189, 42318), (192, 42291), (197, 42273), (213, 42207), (218, 42195), (223, 42180), (236, 42138), (244, 42111),

Gene: Deschain\_75 Start: 43147, Stop: 42287, Start Num: 44

Candidate Starts for Deschain\_75:

(Start: 44 @43147 has 29 MA's), (83, 43030), (103, 42934), (132, 42778), (155, 42694), (189, 42586), (213, 42475), (219, 42460), (225, 42439), (244, 42382),

Gene: DickRichards\_29 Start: 21925, Stop: 22797, Start Num: 50

Candidate Starts for DickRichards\_29:

(Start: 50 @21925 has 64 MA's), (93, 22087), (132, 22294), (133, 22297), (141, 22327), (181, 22471), (187, 22507), (188, 22519), (214, 22645),

Gene: Didgeridoo\_30 Start: 21590, Stop: 22465, Start Num: 50

Candidate Starts for Didgeridoo\_30:

(Start: 50 @21590 has 64 MA's), (132, 21956), (133, 21959), (141, 21989), (168, 22091), (181, 22133), (187, 22169), (188, 22181), (214, 22307),

Gene: DillyDally\_42 Start: 27875, Stop: 28651, Start Num: 68

Candidate Starts for DillyDally\_42:

(31, 27755), (35, 27767), (Start: 61 @27848 has 2 MA's), (Start: 68 @27875 has 1 MA's), (89, 27959), (96, 27995), (126, 28160), (133, 28190), (142, 28226), (156, 28268), (162, 28298), (183, 28334), (195, 28415), (240, 28535),

Gene: DirtyBubble\_28 Start: 21790, Stop: 22716, Start Num: 50

Candidate Starts for DirtyBubble\_28:

(Start: 50 @21790 has 64 MA's), (70, 21871), (93, 21955), (116, 22075), (141, 22195), (167, 22294), (181, 22339), (188, 22387), (268, 22705), (270, 22708),

Gene: Dismas\_26 Start: 21810, Stop: 22745, Start Num: 50

Candidate Starts for Dismas\_26:

(Start: 50 @21810 has 64 MA's), (79, 21912), (93, 21972), (120, 22116), (125, 22143), (181, 22356), (188, 22404), (206, 22506), (270, 22737),

Gene: Divya\_43 Start: 31105, Stop: 31944, Start Num: 47

Candidate Starts for Divya\_43:

(Start: 47 @31105 has 5 MA's), (Start: 61 @31144 has 2 MA's), (107, 31345), (189, 31666), (195, 31702), (206, 31744), (210, 31756), (242, 31837), (258, 31909), (264, 31927),

Gene: Donkey\_26 Start: 20061, Stop: 20897, Start Num: 58

Candidate Starts for Donkey\_26:

(Start: 58 @20061 has 92 MA's), (79, 20142), (84, 20160), (116, 20322), (121, 20355), (129, 20394), (141, 20436), (190, 20592), (199, 20649), (203, 20670), (204, 20673), (224, 20730), (234, 20763),

Gene: Doobus\_28 Start: 21201, Stop: 22079, Start Num: 50

Candidate Starts for Doobus\_28:

(Start: 50 @21201 has 64 MA's), (93, 21363), (132, 21570), (133, 21573), (141, 21603), (160, 21678), (181, 21747), (187, 21783), (188, 21795),

Gene: DrManhattan\_25 Start: 19880, Stop: 20719, Start Num: 58

Candidate Starts for DrManhattan\_25:

(40, 19832), (Start: 58 @19880 has 92 MA's), (77, 19958), (84, 19985), (85, 19988), (101, 20069), (108, 20099), (121, 20183), (150, 20285), (198, 20471), (199, 20477),

Gene: DrSierra\_26 Start: 20561, Stop: 21397, Start Num: 58

Candidate Starts for DrSierra\_26:

(Start: 44 @20522 has 29 MA's), (Start: 58 @20561 has 92 MA's), (75, 20633), (77, 20639), (79, 20648), (84, 20666), (101, 20750), (108, 20780), (121, 20864), (133, 20915), (150, 20966), (199, 21158), (204, 21182), (224, 21239),

Gene: Dubu\_23 Start: 19866, Stop: 20717, Start Num: 60

Candidate Starts for Dubu\_23:

(Start: 60 @19866 has 13 MA's), (84, 19965), (85, 19968), (92, 20007), (101, 20052), (122, 20166), (130, 20205), (141, 20244), (151, 20274), (164, 20334), (183, 20397), (188, 20436), (190, 20448), (193, 20472), (199, 20505), (216, 20568), (253, 20685),

Gene: DustyDino\_78 Start: 43706, Stop: 42846, Start Num: 44

Candidate Starts for DustyDino\_78:

(Start: 44 @43706 has 29 MA's), (83, 43589), (103, 43493), (132, 43337), (155, 43253), (189, 43145), (213, 43034), (219, 43019), (225, 42998), (244, 42941),

Gene: Eden\_25 Start: 19510, Stop: 20370, Start Num: 53

Candidate Starts for Eden\_25:

(Start: 53 @19510 has 11 MA's), (93, 19666), (116, 19786), (132, 19873), (160, 19981), (188, 20098), (194, 20137), (204, 20191), (214, 20224), (216, 20230), (248, 20326),

Gene: Elezi\_28 Start: 23618, Stop: 24448, Start Num: 58

Candidate Starts for Elezi\_28:

(Start: 58 @23618 has 92 MA's), (84, 23723), (99, 23801), (101, 23807), (121, 23918), (133, 23969), (150, 24020), (199, 24212), (204, 24236),

Gene: Elfy\_25 Start: 20830, Stop: 21648, Start Num: 58

Candidate Starts for Elfy\_25:

(Start: 58 @20830 has 92 MA's), (Start: 64 @20845 has 3 MA's), (84, 20935), (85, 20938), (95, 20992), (101, 21019), (108, 21046), (125, 21148), (127, 21157), (138, 21202), (150, 21232), (184, 21316), (198, 21418), (199, 21424), (204, 21448), (241, 21556), (245, 21571),

Gene: Elva\_29 Start: 21782, Stop: 22714, Start Num: 50

Candidate Starts for Elva\_29:

(16, 21662), (20, 21689), (Start: 50 @21782 has 64 MA's), (79, 21887), (93, 21947), (95, 21962), (116, 22067), (141, 22187), (160, 22262), (179, 22325), (181, 22331), (188, 22379), (206, 22481), (214, 22505), (268, 22700), (270, 22703),

Gene: Emotion\_28 Start: 22403, Stop: 23242, Start Num: 58

Candidate Starts for Emotion\_28:

(Start: 45 @22367 has 2 MA's), (Start: 58 @22403 has 92 MA's), (84, 22508), (85, 22511), (101, 22592), (121, 22712), (139, 22787), (205, 23033), (228, 23099), (231, 23111), (245, 23156),

Gene: Eraser\_28 Start: 23624, Stop: 24454, Start Num: 58

Candidate Starts for Eraser\_28:

(Start: 58 @23624 has 92 MA's), (84, 23729), (99, 23807), (101, 23813), (121, 23924), (133, 23975), (150, 24026), (199, 24218), (204, 24242),

Gene: Erenyeager\_75 Start: 42798, Stop: 41938, Start Num: 44

Candidate Starts for Erenyeager\_75:

(Start: 44 @42798 has 29 MA's), (83, 42681), (103, 42585), (132, 42429), (155, 42345), (189, 42237), (213, 42126), (219, 42111), (225, 42090), (244, 42033),

Gene: Eula\_29 Start: 21517, Stop: 22395, Start Num: 50

Candidate Starts for Eula\_29:

(Start: 50 @21517 has 64 MA's), (93, 21679), (132, 21886), (133, 21889), (141, 21919), (168, 22021), (181, 22063), (187, 22099), (188, 22111), (214, 22237),

Gene: Euratis\_24 Start: 19908, Stop: 20756, Start Num: 60

Candidate Starts for Euratis\_24:

(Start: 60 @19908 has 13 MA's), (79, 19989), (84, 20007), (92, 20049), (95, 20067), (101, 20094), (122, 20208), (133, 20256), (141, 20286), (158, 20358), (162, 20370), (183, 20430), (195, 20511), (199, 20541), (224, 20622), (254, 20727),

Gene: Exile\_26 Start: 23786, Stop: 24622, Start Num: 58

Candidate Starts for Exile\_26:

(Start: 58 @23786 has 92 MA's), (69, 23837), (84, 23891), (85, 23894), (99, 23969), (101, 23975), (121, 24086), (140, 24164), (198, 24374), (199, 24380), (204, 24404), (224, 24461), (231, 24482), (234, 24491), (241, 24512),

Gene: Finalfrontier\_29 Start: 21954, Stop: 22829, Start Num: 50

Candidate Starts for Finalfrontier\_29:

(Start: 50 @21954 has 64 MA's), (93, 22113), (132, 22320), (133, 22323), (141, 22353), (168, 22455), (181, 22497), (188, 22545), (214, 22671),

Gene: FiveHead\_31 Start: 21500, Stop: 22405, Start Num: 37

Candidate Starts for FiveHead\_31:

(19, 21452), (Start: 37 @21500 has 1 MA's), (Start: 58 @21569 has 92 MA's), (84, 21674), (85, 21677), (95, 21731), (101, 21758), (121, 21869), (144, 21965), (204, 22187), (205, 22190), (227, 22253), (231, 22265),

Gene: FlameThrower\_26 Start: 21657, Stop: 22547, Start Num: 50

Candidate Starts for FlameThrower\_26:

(Start: 50 @21657 has 64 MA's), (79, 21759), (120, 21963), (133, 22029), (181, 22203), (187, 22239), (188, 22251), (204, 22344), (206, 22353), (214, 22377),

Gene: Floof\_26 Start: 21144, Stop: 22037, Start Num: 45

Candidate Starts for Floof\_26:

(Start: 45 @21144 has 2 MA's), (51, 21162), (Start: 58 @21183 has 92 MA's), (69, 21234), (102, 21372), (110, 21402), (121, 21480), (140, 21564), (150, 21588), (195, 21753), (224, 21861), (227, 21870), (243, 21921), (255, 21966), (267, 22017),

Gene: Flutur\_26 Start: 21771, Stop: 22598, Start Num: 58

Candidate Starts for Flutur\_26:

(Start: 58 @21771 has 92 MA's), (84, 21876), (85, 21879), (99, 21954), (101, 21960), (121, 22071), (127, 22098), (150, 22173), (199, 22365), (204, 22389),

Gene: Forester\_26 Start: 22852, Stop: 23688, Start Num: 58

Candidate Starts for Forester\_26:

(51, 22831), (Start: 58 @22852 has 92 MA's), (69, 22903), (93, 22996), (97, 23026), (102, 23041), (110, 23071), (121, 23149), (140, 23233), (150, 23257), (195, 23422), (224, 23530), (227, 23539), (255, 23635),

Gene: Fork\_70 Start: 42453, Stop: 41593, Start Num: 44

Candidate Starts for Fork\_70:

(Start: 44 @42453 has 29 MA's), (83, 42336), (103, 42240), (132, 42084), (155, 42000), (189, 41892), (213, 41781), (219, 41766), (225, 41745), (244, 41688),

Gene: Franklin22\_26 Start: 19660, Stop: 20520, Start Num: 53

Candidate Starts for Franklin22\_26:

(Start: 53 @19660 has 11 MA's), (93, 19816), (125, 19987), (131, 20020), (132, 20023), (141, 20056), (167, 20155), (181, 20200), (188, 20248), (194, 20287), (204, 20341), (214, 20374), (216, 20380), (248, 20476),

Gene: Frokostdame\_57 Start: 38508, Stop: 39326, Start Num: 58

Candidate Starts for Frokostdame\_57:

(4, 38253), (6, 38289), (Start: 58 @38508 has 92 MA's), (154, 38919), (185, 39009), (199, 39108), (209, 39141),

Gene: GUPitcher\_51 Start: 33598, Stop: 34449, Start Num: 52

Candidate Starts for GUPitcher\_51:

(15, 33466), (Start: 52 @33598 has 1 MA's), (79, 33688), (93, 33751), (118, 33883), (127, 33931), (145, 34003), (150, 34006), (158, 34057), (176, 34096), (183, 34099), (209, 34240), (211, 34249), (238, 34333), (242, 34351),

Gene: Gack\_25 Start: 19547, Stop: 20410, Start Num: 53

Candidate Starts for Gack\_25:

(Start: 53 @19547 has 11 MA's), (93, 19703), (125, 19874), (131, 19907), (132, 19910), (141, 19943), (167, 20042), (181, 20087), (188, 20135), (194, 20174), (204, 20228), (214, 20261), (216, 20267), (248, 20363),

Gene: Gambol\_26 Start: 20061, Stop: 20897, Start Num: 58

Candidate Starts for Gambol\_26:

(Start: 58 @20061 has 92 MA's), (79, 20142), (84, 20160), (116, 20322), (121, 20355), (129, 20394), (141, 20436), (190, 20592), (199, 20649), (203, 20670), (204, 20673), (224, 20730), (234, 20763),

Gene: GardenState\_29 Start: 22154, Stop: 22987, Start Num: 58

Candidate Starts for GardenState\_29:

(Start: 58 @22154 has 92 MA's), (92, 22295), (102, 22343), (110, 22373), (116, 22418), (121, 22451), (150, 22559), (204, 22775), (224, 22832), (245, 22895),

Gene: Giorgio\_26 Start: 20160, Stop: 20996, Start Num: 58

Candidate Starts for Giorgio\_26:

(Start: 44 @20118 has 29 MA's), (Start: 50 @20136 has 64 MA's), (Start: 58 @20160 has 92 MA's), (84, 20259), (116, 20421), (121, 20454), (129, 20493), (190, 20691), (199, 20748), (203, 20769), (204, 20772), (234, 20862),

Gene: GoldDust\_34 Start: 30378, Stop: 31184, Start Num: 61

Candidate Starts for GoldDust\_34:

(Start: 47 @30339 has 5 MA's), (Start: 61 @30378 has 2 MA's), (85, 30462), (87, 30480), (107, 30579), (108, 30582), (114, 30612), (145, 30762), (210, 30990), (264, 31167),

Gene: Gooberta\_34 Start: 30377, Stop: 31183, Start Num: 61

Candidate Starts for Gooberta\_34:

(Start: 47 @30338 has 5 MA's), (Start: 61 @30377 has 2 MA's), (85, 30461), (87, 30479), (107, 30578), (108, 30581), (114, 30611), (145, 30761), (210, 30989), (264, 31166),

Gene: Gretchen\_27 Start: 22546, Stop: 23382, Start Num: 58

Candidate Starts for Gretchen\_27:

(51, 22525), (Start: 58 @22546 has 92 MA's), (69, 22597), (93, 22690), (97, 22720), (102, 22735), (110, 22765), (121, 22843), (140, 22927), (150, 22951), (195, 23116), (224, 23224), (227, 23233), (255, 23329),

Gene: GrimEater\_25 Start: 21048, Stop: 21878, Start Num: 58

Candidate Starts for GrimEater\_25:

(Start: 58 @21048 has 92 MA's), (75, 21120), (84, 21153), (101, 21237), (121, 21348), (127, 21375), (150, 21450), (188, 21573), (199, 21642), (204, 21666), (241, 21774),

Gene: Gumpizza\_26 Start: 20153, Stop: 20989, Start Num: 58

Candidate Starts for Gumpizza\_26:

(Start: 44 @20111 has 29 MA's), (Start: 50 @20129 has 64 MA's), (Start: 58 @20153 has 92 MA's), (84, 20252), (116, 20414), (121, 20447), (129, 20486), (190, 20684), (199, 20741), (203, 20762), (204,

20765), (234, 20855),

Gene: Halsey\_26 Start: 20157, Stop: 20993, Start Num: 58

Candidate Starts for Halsey\_26:

(Start: 44 @20115 has 29 MA's), (Start: 50 @20133 has 64 MA's), (Start: 58 @20157 has 92 MA's), (84, 20256), (116, 20418), (119, 20439), (121, 20451), (129, 20490), (190, 20688), (199, 20745), (203, 20766), (204, 20769), (234, 20859),

Gene: Heather\_24 Start: 19550, Stop: 20422, Start Num: 60

Candidate Starts for Heather\_24:

(Start: 60 @19550 has 13 MA's), (76, 19619), (79, 19631), (81, 19640), (84, 19649), (86, 19670), (92, 19691), (98, 19727), (101, 19736), (116, 19814), (117, 19823), (121, 19847), (127, 19907), (129, 19919), (151, 19991), (158, 20033), (161, 20039), (162, 20045), (183, 20105), (188, 20144), (189, 20150), (190, 20156), (194, 20183), (199, 20213), (204, 20237), (254, 20396),

Gene: Hirko\_34 Start: 30103, Stop: 30942, Start Num: 47

Candidate Starts for Hirko\_34:

(Start: 47 @30103 has 5 MA's), (Start: 61 @30139 has 2 MA's), (85, 30223), (87, 30241), (107, 30340), (108, 30343), (117, 30403), (145, 30523), (162, 30583), (176, 30613), (210, 30751), (229, 30784), (264, 30925),

Gene: HollowPurple\_75 Start: 43009, Stop: 42149, Start Num: 44

Candidate Starts for HollowPurple\_75:

(Start: 44 @43009 has 29 MA's), (83, 42892), (103, 42796), (132, 42640), (155, 42556), (189, 42448), (213, 42337), (219, 42322), (225, 42301), (244, 42244),

Gene: Honk\_25 Start: 19520, Stop: 20347, Start Num: 58

Candidate Starts for Honk\_25:

(40, 19475), (54, 19508), (Start: 58 @19520 has 92 MA's), (84, 19622), (101, 19706), (127, 19844), (130, 19859), (150, 19919), (172, 19997), (199, 20111), (206, 20144), (214, 20168),

Gene: Hortus1\_68 Start: 43079, Stop: 42243, Start Num: 44

Candidate Starts for Hortus1\_68:

(Start: 44 @43079 has 29 MA's), (83, 42965), (85, 42956), (132, 42716), (142, 42677), (155, 42632), (157, 42617), (173, 42572), (189, 42524), (223, 42386), (244, 42317),

Gene: Hubbs\_70 Start: 43101, Stop: 42265, Start Num: 44

Candidate Starts for Hubbs\_70:

(Start: 44 @43101 has 29 MA's), (83, 42987), (90, 42951), (103, 42894), (107, 42876), (132, 42738), (138, 42714), (155, 42654), (189, 42546), (192, 42519), (197, 42501), (213, 42435), (218, 42423), (223, 42408), (236, 42366), (244, 42339),

Gene: IAmGroot\_29 Start: 22818, Stop: 23651, Start Num: 58

Candidate Starts for IAmGroot\_29:

(Start: 58 @22818 has 92 MA's), (92, 22959), (102, 23007), (110, 23037), (116, 23082), (121, 23115), (150, 23223), (204, 23439), (224, 23496), (245, 23559),

Gene: IUFootball\_26 Start: 22078, Stop: 22905, Start Num: 58

Candidate Starts for IUFootball\_26:

(Start: 58 @22078 has 92 MA's), (79, 22162), (84, 22180), (85, 22183), (101, 22264), (198, 22666), (199, 22672), (224, 22753), (227, 22762), (248, 22831), (265, 22894),

Gene: Icarian\_30 Start: 22263, Stop: 23189, Start Num: 50

Candidate Starts for Icarian\_30:

(9, 22083), (Start: 50 @22263 has 64 MA's), (79, 22368), (93, 22428), (116, 22548), (141, 22668), (181, 22812), (268, 23178), (270, 23181),

Gene: IndyLu\_28 Start: 21376, Stop: 22257, Start Num: 50

Candidate Starts for IndyLu\_28:

(Start: 50 @21376 has 64 MA's), (93, 21535), (132, 21742), (133, 21745), (141, 21775), (168, 21877), (181, 21919), (187, 21955), (188, 21967), (214, 22093),

Gene: Issa7\_73 Start: 42460, Stop: 41600, Start Num: 44

Candidate Starts for Issa7\_73:

(Start: 44 @42460 has 29 MA's), (83, 42343), (103, 42247), (132, 42091), (155, 42007), (189, 41899), (213, 41788), (219, 41773), (225, 41752), (244, 41695),

Gene: Iter\_26 Start: 21460, Stop: 22293, Start Num: 58

Candidate Starts for Iter\_26:

(Start: 58 @21460 has 92 MA's), (84, 21565), (85, 21568), (99, 21643), (101, 21649), (121, 21760), (133, 21811), (199, 22054), (204, 22078),

Gene: IttyBittyPiggy\_26 Start: 21487, Stop: 22314, Start Num: 58

Candidate Starts for IttyBittyPiggy\_26:

(Start: 58 @21487 has 92 MA's), (Start: 64 @21502 has 3 MA's), (77, 21565), (79, 21574), (84, 21592), (99, 21670), (101, 21676), (111, 21712), (121, 21787), (199, 22081),

Gene: Jabb\_29 Start: 21556, Stop: 22434, Start Num: 50

Candidate Starts for Jabb\_29:

(Start: 50 @21556 has 64 MA's), (93, 21718), (132, 21925), (133, 21928), (141, 21958), (168, 22060), (181, 22102), (187, 22138), (188, 22150), (214, 22276),

Gene: Jacko\_71 Start: 42128, Stop: 41289, Start Num: 44

Candidate Starts for Jacko\_71:

(Start: 44 @42128 has 29 MA's), (83, 42014), (102, 41921), (103, 41918), (107, 41900), (108, 41897), (132, 41762), (138, 41738), (142, 41723), (155, 41678), (184, 41612), (189, 41570), (207, 41483), (218, 41447), (223, 41432), (236, 41390), (239, 41384), (244, 41363), (256, 41297),

Gene: Janeemi\_28 Start: 23727, Stop: 24560, Start Num: 58

Candidate Starts for Janeemi\_28:

(43, 23688), (Start: 58 @23727 has 92 MA's), (77, 23805), (79, 23814), (84, 23832), (85, 23835), (99, 23910), (101, 23916), (121, 24027), (150, 24129), (199, 24321), (204, 24345), (265, 24549),

Gene: Jankie\_25 Start: 21049, Stop: 21879, Start Num: 58

Candidate Starts for Jankie\_25:

(Start: 58 @21049 has 92 MA's), (75, 21121), (84, 21154), (101, 21238), (121, 21349), (127, 21376), (150, 21451), (188, 21574), (199, 21643), (204, 21667), (241, 21775),

Gene: JasmineDragon\_28 Start: 21466, Stop: 22305, Start Num: 58

Candidate Starts for JasmineDragon\_28:

(Start: 37 @21397 has 1 MA's), (Start: 58 @21466 has 92 MA's), (84, 21571), (101, 21655), (121, 21766), (224, 22141),

Gene: Jinkies\_39 Start: 31061, Stop: 31891, Start Num: 47

Candidate Starts for Jinkies\_39:

(1, 30770), (Start: 47 @31061 has 5 MA's), (Start: 61 @31100 has 2 MA's), (87, 31202), (107, 31298), (118, 31364), (210, 31709), (242, 31790), (258, 31862),

Gene: Joemato\_26 Start: 21540, Stop: 22367, Start Num: 58

Candidate Starts for Joemato\_26:

(Start: 58 @21540 has 92 MA's), (84, 21645), (85, 21648), (99, 21723), (101, 21729), (121, 21840), (127, 21867), (150, 21942), (199, 22134), (204, 22158),

Gene: JohnDoe\_26 Start: 21535, Stop: 22362, Start Num: 58

Candidate Starts for JohnDoe\_26:

(Start: 58 @21535 has 92 MA's), (84, 21640), (85, 21643), (99, 21718), (101, 21724), (121, 21835), (127, 21862), (150, 21937), (199, 22129), (204, 22153),

Gene: JohnThicc\_30 Start: 21569, Stop: 22405, Start Num: 58

Candidate Starts for JohnThicc\_30:

(19, 21452), (Start: 37 @21500 has 1 MA's), (Start: 58 @21569 has 92 MA's), (84, 21674), (85, 21677), (95, 21731), (101, 21758), (121, 21869), (144, 21965), (204, 22187), (205, 22190), (227, 22253), (231, 22265),

Gene: Johnathan\_28 Start: 20974, Stop: 21852, Start Num: 50

Candidate Starts for Johnathan\_28:

(13, 20812), (Start: 50 @20974 has 64 MA's), (93, 21136), (132, 21343), (133, 21346), (141, 21376), (160, 21451), (181, 21520), (187, 21556), (188, 21568), (214, 21694),

Gene: Jovita\_29 Start: 21620, Stop: 22498, Start Num: 50

Candidate Starts for Jovita\_29:

(18, 21527), (Start: 50 @21620 has 64 MA's), (93, 21782), (132, 21989), (133, 21992), (141, 22022), (181, 22166), (187, 22202), (188, 22214), (214, 22340),

Gene: Jstan\_30 Start: 23618, Stop: 24448, Start Num: 58

Candidate Starts for Jstan\_30:

(Start: 58 @23618 has 92 MA's), (84, 23723), (99, 23801), (101, 23807), (121, 23918), (133, 23969), (150, 24020), (199, 24212), (204, 24236),

Gene: JuneStar\_27 Start: 23759, Stop: 24592, Start Num: 58

Candidate Starts for JuneStar\_27:

(Start: 58 @23759 has 92 MA's), (Start: 64 @23774 has 3 MA's), (84, 23864), (85, 23867), (101, 23948), (111, 23987), (121, 24062), (125, 24080), (199, 24356),

Gene: Kalimba\_26 Start: 20061, Stop: 20897, Start Num: 58

Candidate Starts for Kalimba\_26:

(Start: 58 @20061 has 92 MA's), (79, 20142), (84, 20160), (116, 20322), (121, 20355), (129, 20394), (141, 20436), (190, 20592), (199, 20649), (203, 20670), (204, 20673), (224, 20730), (234, 20763),

Gene: Kamdara\_26 Start: 21809, Stop: 22744, Start Num: 50

Candidate Starts for Kamdara\_26:

(Start: 50 @21809 has 64 MA's), (79, 21911), (93, 21971), (120, 22115), (125, 22142), (188, 22403), (206, 22505), (270, 22736),

Gene: Kate33\_28 Start: 21408, Stop: 22277, Start Num: 50

Candidate Starts for Kate33\_28:

(Start: 50 @21408 has 64 MA's), (93, 21567), (132, 21774), (133, 21777), (141, 21807), (168, 21909), (181, 21951), (188, 21999), (214, 22125),

Gene: Katzastrophic\_26 Start: 21775, Stop: 22665, Start Num: 50

Candidate Starts for Katzastrophic\_26:

(Start: 50 @21775 has 64 MA's), (79, 21877), (120, 22081), (133, 22147), (181, 22321), (187, 22357), (188, 22369), (204, 22462), (206, 22471), (214, 22495),

Gene: Kaylissa\_26 Start: 21530, Stop: 22357, Start Num: 58

Candidate Starts for Kaylissa\_26:

(26, 21434), (Start: 58 @21530 has 92 MA's), (84, 21635), (85, 21638), (99, 21713), (101, 21719), (121, 21830), (127, 21857), (150, 21932), (199, 22124), (204, 22148),

Gene: KeAlii\_27 Start: 21676, Stop: 22503, Start Num: 58

Candidate Starts for KeAlii\_27:

(Start: 45 @21643 has 2 MA's), (Start: 58 @21676 has 92 MA's), (79, 21763), (84, 21781), (101, 21865), (121, 21979), (127, 22006), (150, 22081), (184, 22165), (199, 22273), (204, 22297), (212, 22327),

Gene: Kenzers\_29 Start: 21507, Stop: 22385, Start Num: 50

Candidate Starts for Kenzers\_29:

(Start: 50 @21507 has 64 MA's), (93, 21669), (132, 21876), (133, 21879), (141, 21909), (181, 22053), (187, 22089), (188, 22101), (214, 22227),

Gene: Kieran\_26 Start: 21813, Stop: 22748, Start Num: 50

Candidate Starts for Kieran\_26:

(Start: 50 @21813 has 64 MA's), (79, 21915), (93, 21975), (120, 22119), (125, 22146), (181, 22359), (188, 22407), (206, 22509), (270, 22740),

Gene: Kukla\_52 Start: 32835, Stop: 33680, Start Num: 52

Candidate Starts for Kukla\_52:

(15, 32703), (33, 32772), (Start: 52 @32835 has 1 MA's), (79, 32919), (93, 32982), (127, 33162), (150, 33237), (158, 33288), (176, 33327), (183, 33330), (209, 33471), (211, 33480), (238, 33564), (242, 33582),

Gene: LadyAstra\_29 Start: 21434, Stop: 22339, Start Num: 37

Candidate Starts for LadyAstra\_29:

(Start: 37 @21434 has 1 MA's), (Start: 58 @21503 has 92 MA's), (84, 21608), (85, 21611), (95, 21665), (101, 21692), (121, 21803), (144, 21899), (204, 22121), (205, 22124), (227, 22187), (231, 22199),

Gene: Lahqtemish\_28 Start: 21427, Stop: 22308, Start Num: 50

Candidate Starts for Lahqtemish\_28:

(Start: 50 @21427 has 64 MA's), (132, 21793), (133, 21796), (141, 21826), (181, 21970), (187, 22006), (188, 22018), (214, 22144), (238, 22210),

Gene: LeeroyJenkins\_79 Start: 45485, Stop: 44679, Start Num: 65

Candidate Starts for LeeroyJenkins\_79:

(Start: 65 @45485 has 2 MA's), (67, 45467), (72, 45452), (80, 45428), (106, 45329), (113, 45299), (132, 45191), (133, 45188), (187, 45035), (190, 45011), (194, 44984), (202, 44942), (226, 44855), (227, 44852), (259, 44729), (266, 44705),

Gene: Lego\_26 Start: 21484, Stop: 22311, Start Num: 58

Candidate Starts for Lego\_26:

(26, 21388), (Start: 58 @21484 has 92 MA's), (84, 21589), (85, 21592), (99, 21667), (101, 21673), (121, 21784), (127, 21811), (150, 21886), (199, 22078), (204, 22102),

Gene: Liebe\_26 Start: 22078, Stop: 22905, Start Num: 58

Candidate Starts for Liebe\_26:

(Start: 58 @22078 has 92 MA's), (79, 22162), (84, 22180), (85, 22183), (101, 22264), (198, 22666), (199, 22672), (224, 22753), (227, 22762), (248, 22831), (265, 22894),

Gene: Lifes\_72 Start: 42506, Stop: 41583, Start Num: 32

Candidate Starts for Lifes\_72:

(Start: 32 @42506 has 2 MA's), (Start: 65 @42395 has 2 MA's), (67, 42377), (72, 42362), (80, 42338), (102, 42251), (113, 42209), (132, 42101), (133, 42098), (137, 42083), (152, 42035), (184, 41969), (187, 41945), (194, 41894), (196, 41888), (226, 41759), (227, 41756), (259, 41633), (266, 41609),

Gene: Lilbooboo\_24 Start: 20133, Stop: 20978, Start Num: 60

Candidate Starts for Lilbooboo\_24:

(Start: 60 @20133 has 13 MA's), (76, 20202), (79, 20214), (84, 20232), (92, 20274), (98, 20310), (101, 20319), (160, 20586), (161, 20589), (183, 20655), (190, 20706), (191, 20718), (199, 20763), (204, 20787),

Gene: Lilo27\_30 Start: 21595, Stop: 22470, Start Num: 50

Candidate Starts for Lilo27\_30:

(2, 21325), (21, 21511), (Start: 50 @21595 has 64 MA's), (93, 21757), (132, 21964), (133, 21967), (141, 21997), (181, 22141), (187, 22177), (188, 22189), (214, 22315),

Gene: LimaBean\_28 Start: 20970, Stop: 21848, Start Num: 50

Candidate Starts for LimaBean\_28:

(Start: 50 @20970 has 64 MA's), (93, 21132), (132, 21339), (133, 21342), (141, 21372), (160, 21447), (181, 21516), (187, 21552), (188, 21564), (214, 21690),

Gene: LisoBros\_28 Start: 23348, Stop: 24178, Start Num: 58

Candidate Starts for LisoBros\_28:

(Start: 58 @23348 has 92 MA's), (77, 23426), (84, 23453), (92, 23492), (93, 23495), (101, 23537), (127, 23675), (141, 23729), (150, 23750), (172, 23828), (199, 23942), (204, 23966), (224, 24023), (227, 24032), (234, 24053),

Gene: Lizalica\_26 Start: 21527, Stop: 22360, Start Num: 58

Candidate Starts for Lizalica\_26:

(Start: 58 @21527 has 92 MA's), (79, 21614), (84, 21632), (101, 21716), (121, 21830), (127, 21857), (199, 22124), (204, 22148),

Gene: London\_28 Start: 23618, Stop: 24448, Start Num: 58

Candidate Starts for London\_28:

(Start: 58 @23618 has 92 MA's), (84, 23723), (99, 23801), (101, 23807), (121, 23918), (133, 23969), (150, 24020), (199, 24212), (204, 24236),

Gene: Loviatar\_29 Start: 22647, Stop: 23573, Start Num: 50

Candidate Starts for Loviatar\_29:

(Start: 50 @22647 has 64 MA's), (79, 22752), (93, 22812), (116, 22932), (141, 23052), (179, 23190), (181, 23196), (187, 23232), (188, 23244), (214, 23370), (268, 23562), (270, 23565),

Gene: Lupine\_68 Start: 42287, Stop: 41451, Start Num: 44

Candidate Starts for Lupine\_68:

(Start: 44 @42287 has 29 MA's), (83, 42173), (90, 42137), (103, 42080), (107, 42062), (132, 41924), (138, 41900), (155, 41840), (173, 41780), (189, 41732), (192, 41705), (197, 41687), (213, 41621),

(218, 41609), (223, 41594), (236, 41552), (244, 41525),

Gene: Lyell\_74 Start: 42652, Stop: 41792, Start Num: 44

Candidate Starts for Lyell\_74:

(Start: 44 @42652 has 29 MA's), (83, 42535), (103, 42439), (132, 42283), (155, 42199), (189, 42091), (213, 41980), (219, 41965), (225, 41944), (244, 41887),

Gene: Lynlen\_29 Start: 21507, Stop: 22385, Start Num: 50

Candidate Starts for Lynlen\_29:

(Start: 50 @21507 has 64 MA's), (93, 21669), (132, 21876), (133, 21879), (141, 21909), (181, 22053), (187, 22089), (188, 22101), (214, 22227),

Gene: MaGuCo\_25 Start: 21194, Stop: 22021, Start Num: 58

Candidate Starts for MaGuCo\_25:

(Start: 58 @21194 has 92 MA's), (75, 21263), (79, 21278), (84, 21296), (85, 21299), (101, 21380), (198, 21782), (199, 21788), (224, 21869), (227, 21878), (248, 21947),

Gene: Mabodamaca\_27 Start: 21572, Stop: 22405, Start Num: 58

Candidate Starts for Mabodamaca\_27:

(Start: 58 @21572 has 92 MA's), (92, 21713), (102, 21761), (110, 21791), (121, 21869), (150, 21977), (198, 22163), (224, 22250), (227, 22259),

Gene: Maruru\_46 Start: 36167, Stop: 37042, Start Num: 64

Candidate Starts for Maruru\_46:

(Start: 64 @36167 has 3 MA's), (104, 36353), (120, 36437), (146, 36545), (148, 36575), (188, 36707), (189, 36713), (195, 36749), (199, 36782), (238, 36920),

Gene: Maureen\_26 Start: 22078, Stop: 22905, Start Num: 58

Candidate Starts for Maureen\_26:

(Start: 58 @22078 has 92 MA's), (79, 22162), (84, 22180), (85, 22183), (101, 22264), (198, 22666), (199, 22672), (224, 22753), (227, 22762), (248, 22831), (265, 22894),

Gene: Michkear\_29 Start: 23095, Stop: 23925, Start Num: 58

Candidate Starts for Michkear\_29:

(Start: 58 @23095 has 92 MA's), (Start: 64 @23110 has 3 MA's), (79, 23182), (84, 23200), (92, 23239), (99, 23278), (101, 23284), (127, 23422), (150, 23497), (198, 23683), (199, 23689), (224, 23770), (231, 23791),

Gene: Milomuff\_29 Start: 21335, Stop: 22213, Start Num: 50

Candidate Starts for Milomuff\_29:

(Start: 50 @21335 has 64 MA's), (93, 21497), (132, 21704), (133, 21707), (141, 21737), (160, 21812), (181, 21881), (187, 21917), (188, 21929),

Gene: MiniMommy\_28 Start: 21467, Stop: 22306, Start Num: 58

Candidate Starts for MiniMommy\_28:

(Start: 37 @21398 has 1 MA's), (Start: 58 @21467 has 92 MA's), (84, 21572), (101, 21656), (121, 21767), (224, 22142),

Gene: MissSwiss\_25 Start: 19949, Stop: 20782, Start Num: 58

Candidate Starts for MissSwiss\_25:

(40, 19901), (Start: 58 @19949 has 92 MA's), (77, 20027), (79, 20036), (84, 20054), (101, 20138), (108, 20168), (121, 20252), (133, 20303), (188, 20477), (198, 20540), (199, 20546), (204, 20570),

Gene: Mistmere\_69 Start: 41662, Stop: 40784, Start Num: 44

Candidate Starts for Mistmere\_69:

(Start: 44 @41662 has 29 MA's), (83, 41542), (90, 41503), (102, 41449), (103, 41446), (107, 41428), (118, 41362), (132, 41290), (142, 41251), (143, 41245), (155, 41206), (184, 41140), (189, 41098), (190, 41092), (197, 41053), (213, 40987), (219, 40975), (225, 40954), (232, 40930), (244, 40897), (252, 40855),

Gene: Moss\_26 Start: 20153, Stop: 20989, Start Num: 58

Candidate Starts for Moss\_26:

(Start: 44 @20111 has 29 MA's), (Start: 50 @20129 has 64 MA's), (Start: 58 @20153 has 92 MA's), (84, 20252), (116, 20414), (121, 20447), (129, 20486), (190, 20684), (199, 20741), (203, 20762), (204, 20765), (234, 20855),

Gene: MsUbiquitous\_29 Start: 21556, Stop: 22434, Start Num: 50

Candidate Starts for MsUbiquitous\_29:

(Start: 50 @21556 has 64 MA's), (93, 21718), (132, 21925), (133, 21928), (141, 21958), (168, 22060), (181, 22102), (187, 22138), (188, 22150), (214, 22276),

Gene: Mudpuppy\_26 Start: 21535, Stop: 22362, Start Num: 58

Candidate Starts for Mudpuppy\_26:

(Start: 58 @21535 has 92 MA's), (77, 21613), (84, 21640), (99, 21718), (101, 21724), (121, 21835), (127, 21862), (150, 21937), (199, 22129),

Gene: Mufasa8\_46 Start: 34303, Stop: 35181, Start Num: 64

Candidate Starts for Mufasa8\_46:

(36, 34213), (41, 34234), (Start: 64 @34303 has 3 MA's), (87, 34408), (93, 34429), (94, 34441), (99, 34465), (104, 34489), (107, 34495), (146, 34681), (148, 34711), (150, 34714), (152, 34726), (164, 34777), (188, 34843), (189, 34849), (199, 34918), (200, 34924), (238, 35059),

Gene: Musetta\_74 Start: 43173, Stop: 42313, Start Num: 44

Candidate Starts for Musetta\_74:

(Start: 44 @43173 has 29 MA's), (83, 43056), (103, 42960), (132, 42804), (155, 42720), (189, 42612), (213, 42501), (219, 42486), (225, 42465), (244, 42408),

Gene: Music\_34 Start: 30228, Stop: 31064, Start Num: 61

Candidate Starts for Music\_34:

(Start: 47 @30189 has 5 MA's), (Start: 61 @30228 has 2 MA's), (85, 30318), (87, 30336), (105, 30426), (107, 30459), (108, 30462), (114, 30492), (145, 30642), (210, 30870), (264, 31047),

Gene: Mysterium\_26 Start: 20153, Stop: 20989, Start Num: 58

Candidate Starts for Mysterium\_26:

(Start: 44 @20111 has 29 MA's), (Start: 50 @20129 has 64 MA's), (Start: 58 @20153 has 92 MA's), (84, 20252), (116, 20414), (121, 20447), (129, 20486), (190, 20684), (199, 20741), (203, 20762), (204, 20765), (234, 20855),

Gene: Necrophoxinus\_76 Start: 43347, Stop: 42487, Start Num: 44

Candidate Starts for Necrophoxinus\_76:

(Start: 44 @43347 has 29 MA's), (83, 43230), (103, 43134), (132, 42978), (155, 42894), (189, 42786), (213, 42675), (219, 42660), (225, 42639), (244, 42582),

Gene: Nesbitt\_28 Start: 21736, Stop: 22608, Start Num: 62

Candidate Starts for Nesbitt\_28:

(Start: 62 @21736 has 2 MA's), (69, 21778), (84, 21829), (92, 21868), (95, 21886), (101, 21913), (102, 21916), (108, 21943), (136, 22123), (138, 22132), (143, 22153), (162, 22225), (177, 22270), (190, 22345), (216, 22465), (224, 22483),

Gene: Nicky22\_31 Start: 22149, Stop: 23024, Start Num: 50

Candidate Starts for Nicky22\_31:

(Start: 50 @22149 has 64 MA's), (85, 22272), (93, 22311), (132, 22518), (133, 22521), (141, 22551), (168, 22653), (181, 22695), (187, 22731), (188, 22743), (214, 22869),

Gene: Niobe\_28 Start: 23618, Stop: 24448, Start Num: 58

Candidate Starts for Niobe\_28:

(Start: 58 @23618 has 92 MA's), (84, 23723), (99, 23801), (101, 23807), (121, 23918), (133, 23969), (150, 24020), (199, 24212), (204, 24236),

Gene: Nitro\_27 Start: 22945, Stop: 23772, Start Num: 58

Candidate Starts for Nitro\_27:

(Start: 58 @22945 has 92 MA's), (84, 23050), (85, 23053), (99, 23128), (101, 23134), (121, 23245), (150, 23347), (199, 23539), (204, 23563),

Gene: ObiToo\_28 Start: 21940, Stop: 22776, Start Num: 58

Candidate Starts for ObiToo\_28:

(Start: 45 @21907 has 2 MA's), (Start: 58 @21940 has 92 MA's), (Start: 64 @21955 has 3 MA's), (84, 22045), (98, 22120), (101, 22129), (108, 22159), (121, 22243), (199, 22537), (204, 22561),

Gene: OlinDD\_68 Start: 43078, Stop: 42242, Start Num: 44

Candidate Starts for OlinDD\_68:

(Start: 44 @43078 has 29 MA's), (83, 42964), (85, 42955), (132, 42715), (142, 42676), (155, 42631), (157, 42616), (173, 42571), (189, 42523), (223, 42385), (244, 42316),

Gene: Olliecat\_29 Start: 20886, Stop: 21788, Start Num: 50

Candidate Starts for Olliecat\_29:

(8, 20694), (23, 20802), (Start: 39 @20850 has 2 MA's), (Start: 48 @20880 has 4 MA's), (Start: 50 @20886 has 64 MA's), (70, 20970), (93, 21054), (108, 21123), (120, 21198), (125, 21225), (132, 21261), (133, 21264), (138, 21285), (162, 21372), (168, 21396), (169, 21399), (179, 21432), (187, 21474), (198, 21549), (203, 21576), (204, 21579), (214, 21612), (248, 21714), (260, 21774),

Gene: Origami\_29 Start: 21434, Stop: 22339, Start Num: 37

Candidate Starts for Origami\_29:

(Start: 37 @21434 has 1 MA's), (Start: 58 @21503 has 92 MA's), (84, 21608), (85, 21611), (95, 21665), (101, 21692), (121, 21803), (144, 21899), (204, 22121), (205, 22124), (227, 22187), (231, 22199),

Gene: Orkz\_42 Start: 29227, Stop: 30048, Start Num: 47

Candidate Starts for Orkz\_42:

(12, 29071), (Start: 47 @29227 has 5 MA's), (71, 29311), (81, 29335), (107, 29455), (195, 29812), (204, 29845), (210, 29866), (242, 29947),

Gene: PandaPo\_25 Start: 19949, Stop: 20782, Start Num: 58

Candidate Starts for PandaPo\_25:

(40, 19901), (Start: 58 @19949 has 92 MA's), (77, 20027), (79, 20036), (84, 20054), (101, 20138), (108, 20168), (121, 20252), (133, 20303), (188, 20477), (198, 20540), (199, 20546), (204, 20570),

Gene: PastaFagioli\_28 Start: 21412, Stop: 22293, Start Num: 50

Candidate Starts for PastaFagioli\_28:

(Start: 50 @21412 has 64 MA's), (132, 21778), (133, 21781), (141, 21811), (181, 21955), (187, 21991), (188, 22003), (214, 22129), (238, 22195),

Gene: Pavlo\_69 Start: 42932, Stop: 42096, Start Num: 44

Candidate Starts for Pavlo\_69:

(Start: 44 @42932 has 29 MA's), (83, 42818), (90, 42782), (103, 42725), (107, 42707), (132, 42569), (138, 42545), (155, 42485), (173, 42425), (189, 42377), (192, 42350), (197, 42332), (213, 42266), (218, 42254), (223, 42239), (236, 42197), (244, 42170),

Gene: Pecas\_29 Start: 21517, Stop: 22395, Start Num: 50

Candidate Starts for Pecas\_29:

(Start: 50 @21517 has 64 MA's), (93, 21679), (132, 21886), (133, 21889), (141, 21919), (168, 22021), (181, 22063), (187, 22099), (188, 22111), (214, 22237),

Gene: Percival\_27 Start: 22377, Stop: 23213, Start Num: 58

Candidate Starts for Percival\_27:

(51, 22356), (Start: 58 @22377 has 92 MA's), (69, 22428), (93, 22521), (97, 22551), (102, 22566), (110, 22596), (121, 22674), (140, 22758), (150, 22782), (195, 22947), (224, 23055), (227, 23064), (255, 23160),

Gene: PetriParty\_54 Start: 33073, Stop: 33924, Start Num: 52

Candidate Starts for PetriParty\_54:

(15, 32941), (Start: 52 @33073 has 1 MA's), (79, 33163), (93, 33226), (127, 33406), (150, 33481), (158, 33532), (176, 33571), (183, 33574), (206, 33706), (209, 33715), (211, 33724), (238, 33808), (242, 33826),

Gene: PhigPhack\_30 Start: 21507, Stop: 22379, Start Num: 50

Candidate Starts for PhigPhack\_30:

(Start: 50 @21507 has 64 MA's), (93, 21669), (132, 21876), (133, 21879), (141, 21909), (168, 22011), (181, 22053), (187, 22089), (188, 22101), (214, 22227),

Gene: PhillyPhilly\_69 Start: 42466, Stop: 41630, Start Num: 44

Candidate Starts for PhillyPhilly\_69:

(Start: 44 @42466 has 29 MA's), (83, 42352), (90, 42316), (103, 42259), (107, 42241), (132, 42103), (138, 42079), (155, 42019), (173, 41959), (189, 41911), (192, 41884), (197, 41866), (213, 41800), (218, 41788), (223, 41773), (236, 41731), (244, 41704),

Gene: Phisb\_29 Start: 21573, Stop: 22451, Start Num: 50

Candidate Starts for Phisb\_29:

(Start: 50 @21573 has 64 MA's), (93, 21735), (132, 21942), (133, 21945), (141, 21975), (168, 22077), (181, 22119), (187, 22155), (188, 22167), (214, 22293),

Gene: Phives\_28 Start: 23535, Stop: 24368, Start Num: 58

Candidate Starts for Phives\_28:

(Start: 58 @23535 has 92 MA's), (84, 23640), (85, 23643), (99, 23718), (101, 23724), (121, 23835), (127, 23862), (150, 23937), (199, 24129), (204, 24153), (254, 24315), (265, 24357),

Gene: Pioneer3\_68 Start: 42900, Stop: 42064, Start Num: 44

Candidate Starts for Pioneer3\_68:

(Start: 44 @42900 has 29 MA's), (83, 42786), (85, 42777), (132, 42537), (142, 42498), (155, 42453), (157, 42438), (173, 42393), (189, 42345), (223, 42207), (244, 42138),

Gene: Pixelle\_27 Start: 23376, Stop: 24203, Start Num: 58

Candidate Starts for Pixelle\_27:

(Start: 52 @23361 has 1 MA's), (Start: 58 @23376 has 92 MA's), (84, 23481), (99, 23559), (101, 23565), (121, 23676), (199, 23970),

Gene: Platte\_68 Start: 42871, Stop: 42035, Start Num: 44

Candidate Starts for Platte\_68:

(Start: 44 @42871 has 29 MA's), (83, 42757), (85, 42748), (132, 42508), (142, 42469), (155, 42424), (157, 42409), (173, 42364), (189, 42316), (223, 42178), (244, 42109),

Gene: PondAmelia\_36 Start: 21829, Stop: 22755, Start Num: 50

Candidate Starts for PondAmelia\_36:

(9, 21649), (Start: 50 @21829 has 64 MA's), (70, 21910), (93, 21994), (116, 22114), (141, 22234), (181, 22378), (188, 22426), (268, 22744), (270, 22747),

Gene: Powerpuff\_26 Start: 21535, Stop: 22362, Start Num: 58

Candidate Starts for Powerpuff\_26:

(Start: 58 @21535 has 92 MA's), (84, 21640), (85, 21643), (99, 21718), (101, 21724), (121, 21835), (127, 21862), (150, 21937), (199, 22129), (204, 22153),

Gene: Pumpkins\_26 Start: 22329, Stop: 23159, Start Num: 58

Candidate Starts for Pumpkins\_26:

(26, 22233), (Start: 58 @22329 has 92 MA's), (84, 22434), (85, 22437), (99, 22512), (101, 22518), (111, 22554), (121, 22629), (140, 22707), (188, 22854), (199, 22923),

Gene: QMacho\_30 Start: 22000, Stop: 22878, Start Num: 50

Candidate Starts for QMacho\_30:

(Start: 50 @22000 has 64 MA's), (93, 22162), (132, 22369), (133, 22372), (141, 22402), (168, 22504), (181, 22546), (187, 22582), (188, 22594), (214, 22720),

Gene: Quenya\_27 Start: 21668, Stop: 22558, Start Num: 50

Candidate Starts for Quenya\_27:

(Start: 50 @21668 has 64 MA's), (79, 21770), (120, 21974), (133, 22040), (181, 22214), (222, 22406),

Gene: Reedo\_26 Start: 20112, Stop: 20945, Start Num: 58

Candidate Starts for Reedo\_26:

(Start: 58 @20112 has 92 MA's), (69, 20163), (84, 20217), (101, 20301), (108, 20331), (121, 20415), (127, 20442), (150, 20517), (184, 20601), (199, 20709), (204, 20733),

Gene: RemusLoopin\_24 Start: 20149, Stop: 20988, Start Num: 60

Candidate Starts for RemusLoopin\_24:

(Start: 60 @20149 has 13 MA's), (76, 20218), (79, 20230), (81, 20239), (84, 20248), (86, 20269), (92, 20290), (101, 20335), (116, 20413), (125, 20464), (141, 20527), (151, 20557), (158, 20599), (161, 20605), (162, 20611), (183, 20671), (189, 20716), (190, 20722), (194, 20749), (199, 20779), (217, 20845), (254, 20962),

Gene: RockScotty\_26 Start: 20129, Stop: 20965, Start Num: 58

Candidate Starts for RockScotty\_26:

(Start: 44 @20087 has 29 MA's), (Start: 50 @20105 has 64 MA's), (Start: 58 @20129 has 92 MA's), (84, 20228), (116, 20390), (121, 20423), (129, 20462), (190, 20660), (199, 20717), (203, 20738), (204, 20741), (234, 20831),

Gene: Rollins\_25 Start: 19362, Stop: 20243, Start Num: 53

Candidate Starts for Rollins\_25:

(Start: 53 @19362 has 11 MA's), (Start: 64 @19392 has 3 MA's), (93, 19521), (112, 19605), (120, 19665), (125, 19692), (133, 19731), (181, 19914), (187, 19950), (214, 20088), (227, 20121), (250, 20205),

Gene: Roman\_72 Start: 43587, Stop: 42751, Start Num: 44

Candidate Starts for Roman\_72:

(Start: 44 @43587 has 29 MA's), (83, 43473), (90, 43437), (103, 43380), (107, 43362), (132, 43224), (138, 43200), (155, 43140), (173, 43080), (189, 43032), (192, 43005), (197, 42987), (213, 42921), (218, 42909), (223, 42894), (236, 42852), (244, 42825),

Gene: Rona\_26 Start: 21810, Stop: 22745, Start Num: 50

Candidate Starts for Rona\_26:

(Start: 50 @21810 has 64 MA's), (79, 21912), (93, 21972), (120, 22116), (125, 22143), (181, 22356), (188, 22404), (206, 22506), (270, 22737),

Gene: Rowa\_30 Start: 23093, Stop: 23953, Start Num: 60

Candidate Starts for Rowa\_30:

(Start: 60 @23093 has 13 MA's), (79, 23174), (82, 23186), (84, 23192), (92, 23231), (101, 23276), (121, 23387), (122, 23390), (138, 23459), (144, 23483), (180, 23624), (182, 23630), (186, 23660), (189, 23678), (190, 23684), (199, 23741), (203, 23762), (204, 23765), (216, 23804), (221, 23819),

Gene: RunningBrook\_76 Start: 43706, Stop: 42846, Start Num: 44

Candidate Starts for RunningBrook\_76:

(Start: 44 @43706 has 29 MA's), (83, 43589), (103, 43493), (132, 43337), (155, 43253), (189, 43145), (213, 43034), (219, 43019), (225, 42998), (244, 42941),

Gene: SPB78\_49 Start: 33944, Stop: 34774, Start Num: 58

Candidate Starts for SPB78\_49:

(3, 33665), (8, 33728), (10, 33740), (13, 33749), (28, 33845), (30, 33851), (Start: 58 @33944 has 92 MA's), (75, 34016), (87, 34067), (118, 34220), (122, 34244), (134, 34292), (142, 34325), (175, 34451), (198, 34568), (204, 34598), (224, 34655),

Gene: Sabourin\_26 Start: 20060, Stop: 20896, Start Num: 58

Candidate Starts for Sabourin\_26:

(Start: 58 @20060 has 92 MA's), (79, 20141), (84, 20159), (116, 20321), (121, 20354), (129, 20393), (141, 20435), (190, 20591), (199, 20648), (203, 20669), (204, 20672), (224, 20729), (234, 20762),

Gene: Samora\_24 Start: 20288, Stop: 21133, Start Num: 60

Candidate Starts for Samora\_24:

(Start: 60 @20288 has 13 MA's), (79, 20369), (84, 20387), (92, 20429), (98, 20465), (101, 20474), (143, 20678), (158, 20738), (161, 20744), (183, 20810), (190, 20861), (191, 20873), (199, 20918), (204, 20942), (206, 20951), (254, 21104),

Gene: Samy\_34 Start: 26611, Stop: 27414, Start Num: 60

Candidate Starts for Samy\_34:

(46, 26575), (Start: 60 @26611 has 13 MA's), (Start: 64 @26620 has 3 MA's), (79, 26692), (84, 26710), (87, 26731), (128, 26944), (129, 26950), (150, 27013), (152, 27025), (164, 27076), (201, 27214), (216, 27268), (224, 27286),

Gene: SanaSana\_30 Start: 22297, Stop: 23223, Start Num: 50

Candidate Starts for SanaSana\_30:

(9, 22117), (Start: 50 @22297 has 64 MA's), (79, 22402), (93, 22462), (116, 22582), (141, 22702), (181, 22846), (188, 22894), (206, 22996), (214, 23020), (268, 23212), (270, 23215),

Gene: SansAfet\_29 Start: 21442, Stop: 22320, Start Num: 50

Candidate Starts for SansAfet\_29:

(Start: 50 @21442 has 64 MA's), (93, 21604), (132, 21811), (133, 21814), (141, 21844), (168, 21946), (181, 21988), (187, 22024), (188, 22036), (214, 22162),

Gene: SarBear\_29 Start: 21497, Stop: 22372, Start Num: 50

Candidate Starts for SarBear\_29:

(Start: 50 @21497 has 64 MA's), (93, 21659), (132, 21866), (133, 21869), (141, 21899), (168, 22001), (181, 22043), (187, 22079), (188, 22091), (214, 22217),

Gene: Saradis\_71 Start: 42548, Stop: 41709, Start Num: 44

Candidate Starts for Saradis\_71:

(Start: 44 @42548 has 29 MA's), (83, 42434), (90, 42398), (103, 42341), (107, 42323), (132, 42185), (138, 42161), (155, 42101), (189, 41993), (192, 41966), (197, 41948), (223, 41852), (236, 41810), (244, 41783),

Gene: Schaffner\_26 Start: 22312, Stop: 23145, Start Num: 58

Candidate Starts for Schaffner\_26:

(Start: 58 @22312 has 92 MA's), (Start: 64 @22327 has 3 MA's), (84, 22417), (95, 22474), (101, 22501), (111, 22540), (121, 22615), (125, 22633), (199, 22909),

Gene: Sebastisaurus\_24 Start: 19989, Stop: 20828, Start Num: 60

Candidate Starts for Sebastisaurus\_24:

(25, 19896), (Start: 60 @19989 has 13 MA's), (76, 20058), (81, 20079), (84, 20088), (86, 20109), (92, 20130), (101, 20175), (116, 20253), (125, 20304), (141, 20367), (151, 20397), (158, 20439), (161, 20445), (162, 20451), (183, 20511), (188, 20550), (190, 20562), (199, 20619),

Gene: ShakeltOph\_28 Start: 21397, Stop: 22305, Start Num: 37

Candidate Starts for ShakeltOph\_28:

(Start: 37 @21397 has 1 MA's), (Start: 58 @21466 has 92 MA's), (84, 21571), (101, 21655), (121, 21766), (224, 22141),

Gene: Sharkboy\_27 Start: 21891, Stop: 22829, Start Num: 50

Candidate Starts for Sharkboy\_27:

(Start: 50 @21891 has 64 MA's), (79, 21996), (93, 22056), (120, 22200), (125, 22227), (181, 22440), (188, 22488), (206, 22590),

Gene: Shawty\_23 Start: 20354, Stop: 21199, Start Num: 60

Candidate Starts for Shawty\_23:

(Start: 60 @20354 has 13 MA's), (79, 20435), (84, 20453), (92, 20495), (101, 20540), (119, 20639), (121, 20651), (127, 20678), (141, 20732), (144, 20747), (158, 20804), (161, 20810), (178, 20861), (183, 20876), (190, 20927), (191, 20939), (199, 20984), (204, 21008), (224, 21065), (253, 21167), (254, 21170),

Gene: Shayna\_27 Start: 20808, Stop: 21713, Start Num: 48

Candidate Starts for Shayna\_27:

(8, 20631), (Start: 48 @20808 has 4 MA's), (93, 20979), (116, 21099), (125, 21150), (129, 21177), (203, 21501), (205, 21507), (234, 21591), (240, 21606), (261, 21702),

Gene: Shroomer\_79 Start: 42943, Stop: 42083, Start Num: 44

Candidate Starts for Shroomer\_79:

(Start: 44 @42943 has 29 MA's), (83, 42826), (103, 42730), (132, 42574), (155, 42490), (189, 42382), (213, 42271), (219, 42256), (225, 42235), (244, 42178),

Gene: Simpson\_28 Start: 21540, Stop: 22367, Start Num: 58

Candidate Starts for Simpson\_28:

(Start: 58 @21540 has 92 MA's), (84, 21645), (85, 21648), (99, 21723), (101, 21729), (121, 21840), (127, 21867), (150, 21942), (199, 22134), (204, 22158),

Gene: SirBeanington\_29 Start: 21566, Stop: 22444, Start Num: 50

Candidate Starts for SirBeanington\_29:

(Start: 50 @21566 has 64 MA's), (93, 21728), (132, 21935), (133, 21938), (141, 21968), (187, 22148), (188, 22160), (214, 22286),

Gene: Skelbel\_29 Start: 23618, Stop: 24448, Start Num: 58

Candidate Starts for Skelbel\_29:

(Start: 58 @23618 has 92 MA's), (84, 23723), (99, 23801), (101, 23807), (121, 23918), (133, 23969), (150, 24020), (199, 24212), (204, 24236),

Gene: Skylord\_25 Start: 19293, Stop: 20174, Start Num: 53

Candidate Starts for Skylord\_25:

(Start: 53 @19293 has 11 MA's), (93, 19452), (112, 19536), (120, 19596), (125, 19623), (133, 19662), (181, 19845), (187, 19881), (214, 20019), (227, 20052), (250, 20136),

Gene: Slay\_30 Start: 22145, Stop: 23020, Start Num: 50

Candidate Starts for Slay\_30:

(Start: 50 @22145 has 64 MA's), (85, 22268), (93, 22307), (132, 22514), (133, 22517), (141, 22547), (168, 22649), (181, 22691), (187, 22727), (188, 22739), (214, 22865),

Gene: Sleepyhead\_51 Start: 34354, Stop: 35169, Start Num: 57

Candidate Starts for Sleepyhead\_51:

(Start: 57 @34354 has 1 MA's), (77, 34435), (87, 34486), (101, 34549), (127, 34675), (142, 34735), (151, 34759), (175, 34840), (199, 34960), (208, 34987), (235, 35062),

Gene: Snek\_27 Start: 20682, Stop: 21515, Start Num: 58

Candidate Starts for Snek\_27:

(22, 20580), (Start: 37 @20616 has 1 MA's), (Start: 58 @20682 has 92 MA's), (84, 20787), (101, 20871), (121, 20985), (127, 21012), (150, 21087), (184, 21171), (198, 21273), (199, 21279), (204, 21303),

Gene: Softsoap\_28 Start: 21265, Stop: 22143, Start Num: 50

Candidate Starts for Softsoap\_28:

(Start: 50 @21265 has 64 MA's), (93, 21427), (132, 21634), (133, 21637), (141, 21667), (160, 21742), (181, 21811), (187, 21847), (188, 21859), (214, 21985),

Gene: Solea\_30 Start: 21335, Stop: 22213, Start Num: 50

Candidate Starts for Solea\_30:

(Start: 50 @21335 has 64 MA's), (93, 21497), (132, 21704), (133, 21707), (141, 21737), (160, 21812), (181, 21881), (187, 21917), (188, 21929),

Gene: Solimine\_70 Start: 42901, Stop: 42065, Start Num: 44

Candidate Starts for Solimine\_70:

(Start: 44 @42901 has 29 MA's), (83, 42787), (90, 42751), (103, 42694), (107, 42676), (132, 42538), (138, 42514), (155, 42454), (173, 42394), (189, 42346), (192, 42319), (197, 42301), (213, 42235),

(218, 42223), (223, 42208), (236, 42166), (244, 42139),

Gene: Sonali\_46 Start: 36630, Stop: 37502, Start Num: 64

Candidate Starts for Sonali\_46:

(Start: 64 @36630 has 3 MA's), (104, 36816), (120, 36900), (146, 37008), (148, 37038), (188, 37170), (189, 37176), (195, 37212), (199, 37245), (238, 37383), (245, 37407),

Gene: Soondubu\_26 Start: 23790, Stop: 24626, Start Num: 58

Candidate Starts for Soondubu\_26:

(Start: 58 @23790 has 92 MA's), (84, 23895), (85, 23898), (99, 23973), (101, 23979), (121, 24090), (140, 24168), (199, 24384), (204, 24408), (224, 24465), (234, 24495), (241, 24516),

Gene: Sooty\_26 Start: 20063, Stop: 20899, Start Num: 58

Candidate Starts for Sooty\_26:

(Start: 58 @20063 has 92 MA's), (79, 20144), (84, 20162), (116, 20324), (121, 20357), (129, 20396), (141, 20438), (190, 20594), (199, 20651), (203, 20672), (204, 20675), (224, 20732), (234, 20765),

Gene: SpecialK\_26 Start: 20060, Stop: 20896, Start Num: 58

Candidate Starts for SpecialK\_26:

(Start: 44 @20018 has 29 MA's), (Start: 50 @20036 has 64 MA's), (Start: 58 @20060 has 92 MA's), (84, 20159), (116, 20321), (121, 20354), (129, 20393), (190, 20591), (199, 20648), (203, 20669), (204, 20672), (234, 20762),

Gene: Squirrel\_29 Start: 20849, Stop: 21787, Start Num: 39

Candidate Starts for Squirrel\_29:

(8, 20693), (23, 20801), (Start: 39 @20849 has 2 MA's), (Start: 48 @20879 has 4 MA's), (Start: 50 @20885 has 64 MA's), (70, 20969), (93, 21053), (108, 21122), (120, 21197), (125, 21224), (132, 21260), (133, 21263), (138, 21284), (162, 21371), (168, 21395), (169, 21398), (179, 21431), (187, 21473), (198, 21548), (203, 21575), (204, 21578), (214, 21611), (248, 21713), (260, 21773),

Gene: SteakFry\_77 Start: 43009, Stop: 42149, Start Num: 44

Candidate Starts for SteakFry\_77:

(Start: 44 @43009 has 29 MA's), (83, 42892), (103, 42796), (132, 42640), (155, 42556), (189, 42448), (213, 42337), (219, 42322), (225, 42301), (244, 42244),

Gene: StevieWelch\_75 Start: 42798, Stop: 41938, Start Num: 44

Candidate Starts for StevieWelch\_75:

(Start: 44 @42798 has 29 MA's), (83, 42681), (103, 42585), (132, 42429), (155, 42345), (189, 42237), (213, 42126), (219, 42111), (225, 42090), (227, 42084), (244, 42033),

Gene: Stoor\_29 Start: 22294, Stop: 23220, Start Num: 50

Candidate Starts for Stoor\_29:

(Start: 50 @22294 has 64 MA's), (70, 22375), (93, 22459), (116, 22579), (141, 22699), (167, 22798), (181, 22843), (188, 22891), (206, 22993), (214, 23017), (268, 23209), (270, 23212),

Gene: Stromboli\_28 Start: 21831, Stop: 22757, Start Num: 50

Candidate Starts for Stromboli\_28:

(Start: 50 @21831 has 64 MA's), (70, 21912), (93, 21996), (116, 22116), (141, 22236), (167, 22335), (181, 22380), (188, 22428), (268, 22746), (270, 22749),

Gene: Stuu\_26 Start: 20152, Stop: 20988, Start Num: 58

Candidate Starts for Stuu\_26:

(Start: 44 @20110 has 29 MA's), (Start: 50 @20128 has 64 MA's), (Start: 58 @20152 has 92 MA's), (84, 20251), (116, 20413), (121, 20446), (129, 20485), (190, 20683), (199, 20740), (203, 20761), (204, 20764), (234, 20854),

Gene: SuMoo\_26 Start: 20527, Stop: 21360, Start Num: 58

Candidate Starts for SuMoo\_26:

(Start: 58 @20527 has 92 MA's), (92, 20668), (102, 20716), (110, 20746), (121, 20824), (150, 20932), (198, 21118), (224, 21205), (227, 21214),

Gene: Subaru\_29 Start: 23618, Stop: 24448, Start Num: 58

Candidate Starts for Subaru\_29:

(Start: 58 @23618 has 92 MA's), (84, 23723), (99, 23801), (101, 23807), (121, 23918), (133, 23969), (150, 24020), (199, 24212), (204, 24236),

Gene: Sue2\_28 Start: 22367, Stop: 23227, Start Num: 45

Candidate Starts for Sue2\_28:

(Start: 45 @22367 has 2 MA's), (Start: 58 @22397 has 92 MA's), (84, 22502), (101, 22586), (108, 22616), (121, 22700), (133, 22751), (150, 22802), (163, 22862), (199, 22994), (204, 23018), (212, 23048), (241, 23126),

Gene: SunnyD\_27 Start: 20850, Stop: 21755, Start Num: 48

Candidate Starts for SunnyD\_27:

(8, 20673), (Start: 48 @20850 has 4 MA's), (93, 21021), (116, 21141), (125, 21192), (129, 21219), (203, 21543), (205, 21549), (234, 21633), (240, 21648), (261, 21744),

Gene: SunnyJune\_41 Start: 30629, Stop: 31459, Start Num: 47

Candidate Starts for SunnyJune\_41:

(11, 30464), (Start: 47 @30629 has 5 MA's), (Start: 61 @30668 has 2 MA's), (87, 30770), (92, 30788), (107, 30866), (118, 30932), (210, 31277), (242, 31358), (258, 31430),

Gene: Sunshine23\_48 Start: 36509, Stop: 37384, Start Num: 64

Candidate Starts for Sunshine23\_48:

(Start: 64 @36509 has 3 MA's), (Start: 65 @36518 has 2 MA's), (79, 36572), (104, 36695), (120, 36779), (146, 36887), (148, 36917), (188, 37049), (189, 37055), (195, 37091), (199, 37124), (238, 37262),

Gene: SuperHands\_26 Start: 22863, Stop: 23699, Start Num: 58

Candidate Starts for SuperHands\_26:

(Start: 58 @22863 has 92 MA's), (69, 22914), (93, 23007), (97, 23037), (102, 23052), (110, 23082), (121, 23160), (140, 23244), (150, 23268), (195, 23433), (224, 23541), (227, 23550), (255, 23646),

Gene: Swervy\_29 Start: 21497, Stop: 22375, Start Num: 50

Candidate Starts for Swervy\_29:

(Start: 50 @21497 has 64 MA's), (93, 21659), (132, 21866), (133, 21869), (141, 21899), (181, 22043), (187, 22079), (188, 22091), (214, 22217),

Gene: TG1\_23 Start: 20234, Stop: 21076, Start Num: 60

Candidate Starts for TG1\_23:

(34, 20168), (38, 20180), (Start: 60 @20234 has 13 MA's), (Start: 64 @20243 has 3 MA's), (79, 20315), (84, 20333), (92, 20375), (101, 20420), (108, 20447), (127, 20558), (144, 20627), (151, 20642), (162, 20696), (169, 20717), (183, 20756), (190, 20807), (191, 20819), (199, 20864), (204, 20888), (206, 20897), (243, 21008),

Gene: Tallboi\_27 Start: 22973, Stop: 23800, Start Num: 58  
Candidate Starts for Tallboi\_27:  
(Start: 58 @22973 has 92 MA's), (84, 23078), (99, 23156), (101, 23162), (121, 23273), (150, 23375),  
(199, 23567),

Gene: Tandem\_68 Start: 42998, Stop: 42162, Start Num: 44  
Candidate Starts for Tandem\_68:  
(Start: 44 @42998 has 29 MA's), (83, 42884), (85, 42875), (132, 42635), (142, 42596), (155, 42551),  
(157, 42536), (173, 42491), (189, 42443), (223, 42305), (244, 42236),

Gene: Tbone\_26 Start: 21559, Stop: 22386, Start Num: 58  
Candidate Starts for Tbone\_26:  
(Start: 58 @21559 has 92 MA's), (77, 21637), (84, 21664), (99, 21742), (101, 21748), (121, 21859),  
(127, 21886), (150, 21961), (199, 22153), (204, 22177),

Gene: Teagster\_29 Start: 21769, Stop: 22674, Start Num: 48  
Candidate Starts for Teagster\_29:  
(8, 21592), (Start: 48 @21769 has 4 MA's), (93, 21940), (116, 22060), (125, 22111), (129, 22138),  
(203, 22462), (205, 22468), (234, 22552), (240, 22567), (261, 22663),

Gene: TforTroy\_27 Start: 22221, Stop: 23054, Start Num: 58  
Candidate Starts for TforTroy\_27:  
(27, 22125), (Start: 58 @22221 has 92 MA's), (79, 22308), (84, 22326), (95, 22383), (101, 22410),  
(111, 22449), (121, 22524), (125, 22542), (199, 22818), (204, 22842),

Gene: ThursdayNight\_26 Start: 21284, Stop: 22108, Start Num: 58  
Candidate Starts for ThursdayNight\_26:  
(Start: 58 @21284 has 92 MA's), (69, 21335), (84, 21386), (85, 21389), (95, 21443), (101, 21470),  
(121, 21581), (150, 21683), (198, 21869), (199, 21875), (224, 21956), (227, 21965), (245, 22022),  
(262, 22091),

Gene: Tian\_27 Start: 23372, Stop: 24199, Start Num: 58  
Candidate Starts for Tian\_27:  
(Start: 52 @23357 has 1 MA's), (Start: 58 @23372 has 92 MA's), (84, 23477), (99, 23555), (101,  
23561), (121, 23672), (199, 23966),

Gene: Tuck\_28 Start: 23678, Stop: 24511, Start Num: 58  
Candidate Starts for Tuck\_28:  
(Start: 58 @23678 has 92 MA's), (84, 23783), (85, 23786), (99, 23861), (101, 23867), (121, 23978),  
(150, 24080), (199, 24272), (204, 24296), (254, 24458), (265, 24500),

Gene: TukTuk\_29 Start: 21556, Stop: 22434, Start Num: 50  
Candidate Starts for TukTuk\_29:  
(Start: 50 @21556 has 64 MA's), (93, 21718), (132, 21925), (133, 21928), (141, 21958), (168, 22060),  
(181, 22102), (187, 22138), (188, 22150), (214, 22276),

Gene: Turab\_26 Start: 21447, Stop: 22277, Start Num: 58  
Candidate Starts for Turab\_26:  
(Start: 58 @21447 has 92 MA's), (77, 21525), (84, 21552), (95, 21609), (99, 21630), (101, 21636),  
(121, 21747), (150, 21849), (199, 22041), (204, 22065),

Gene: Tutumahutu\_26 Start: 21534, Stop: 22361, Start Num: 58  
Candidate Starts for Tutumahutu\_26:

(26, 21438), (Start: 58 @21534 has 92 MA's), (84, 21639), (101, 21723), (121, 21834), (127, 21861), (150, 21936), (199, 22128), (204, 22152),

Gene: Tweety19\_27 Start: 20681, Stop: 21514, Start Num: 58

Candidate Starts for Tweety19\_27:

(22, 20579), (Start: 37 @20615 has 1 MA's), (Start: 58 @20681 has 92 MA's), (84, 20786), (101, 20870), (121, 20984), (127, 21011), (150, 21086), (184, 21170), (198, 21272), (199, 21278), (204, 21302),

Gene: Uterion\_73 Start: 43034, Stop: 42198, Start Num: 44

Candidate Starts for Uterion\_73:

(Start: 44 @43034 has 29 MA's), (83, 42920), (90, 42884), (103, 42827), (107, 42809), (132, 42671), (138, 42647), (155, 42587), (173, 42527), (189, 42479), (192, 42452), (197, 42434), (213, 42368), (218, 42356), (223, 42341), (236, 42299), (244, 42272),

Gene: UtzChips\_26 Start: 21221, Stop: 22036, Start Num: 58

Candidate Starts for UtzChips\_26:

(Start: 58 @21221 has 92 MA's), (97, 21395), (102, 21410), (110, 21440), (121, 21518), (125, 21536), (150, 21620), (184, 21704), (204, 21836), (224, 21893), (245, 21956), (248, 21968),

Gene: VResidence\_27 Start: 21676, Stop: 22509, Start Num: 58

Candidate Starts for VResidence\_27:

(Start: 58 @21676 has 92 MA's), (84, 21781), (101, 21865), (108, 21895), (121, 21979), (127, 22006), (133, 22030), (150, 22081), (152, 22093), (199, 22273), (204, 22297), (224, 22354),

Gene: VWB\_39 Start: 31399, Stop: 32235, Start Num: 58

Candidate Starts for VWB\_39:

(Start: 58 @31399 has 92 MA's), (79, 31480), (85, 31504), (87, 31525), (93, 31546), (94, 31558), (116, 31666), (122, 31702), (124, 31711), (152, 31822), (161, 31867), (166, 31888), (187, 31951), (201, 32041), (205, 32059),

Gene: Vash\_24 Start: 19933, Stop: 20778, Start Num: 60

Candidate Starts for Vash\_24:

(Start: 60 @19933 has 13 MA's), (84, 20032), (92, 20074), (98, 20110), (101, 20119), (127, 20257), (141, 20311), (161, 20389), (162, 20395), (183, 20455), (190, 20506), (191, 20518), (199, 20563), (253, 20746), (254, 20749),

Gene: Vibaki\_34 Start: 30213, Stop: 31088, Start Num: 47

Candidate Starts for Vibaki\_34:

(Start: 47 @30213 has 5 MA's), (Start: 61 @30252 has 2 MA's), (105, 30450), (107, 30483), (108, 30486), (210, 30894), (264, 31071),

Gene: Vitas\_25 Start: 19302, Stop: 20183, Start Num: 53

Candidate Starts for Vitas\_25:

(Start: 53 @19302 has 11 MA's), (Start: 64 @19332 has 3 MA's), (93, 19461), (112, 19545), (120, 19605), (125, 19632), (133, 19671), (181, 19854), (214, 20028), (227, 20061), (250, 20145),

Gene: Vitus\_35 Start: 28962, Stop: 29801, Start Num: 47

Candidate Starts for Vitus\_35:

(Start: 47 @28962 has 5 MA's), (49, 28968), (Start: 61 @29001 has 2 MA's), (74, 29052), (87, 29103), (92, 29121), (107, 29202), (118, 29268), (174, 29469), (183, 29478), (187, 29505), (215, 29619), (242, 29694),

Gene: VroomVroom\_28 Start: 21561, Stop: 22400, Start Num: 58

Candidate Starts for VroomVroom\_28:

(Start: 37 @21492 has 1 MA's), (Start: 58 @21561 has 92 MA's), (84, 21666), (101, 21750), (121, 21861), (224, 22236),

Gene: WalkingDead\_29 Start: 22400, Stop: 23326, Start Num: 50

Candidate Starts for WalkingDead\_29:

(9, 22220), (Start: 50 @22400 has 64 MA's), (70, 22481), (93, 22565), (141, 22805), (181, 22949), (188, 22997), (204, 23090), (206, 23099), (268, 23315), (270, 23318),

Gene: Warda\_26 Start: 21534, Stop: 22361, Start Num: 58

Candidate Starts for Warda\_26:

(Start: 58 @21534 has 92 MA's), (77, 21612), (84, 21639), (99, 21717), (101, 21723), (121, 21834), (127, 21861), (150, 21936), (199, 22128), (204, 22152),

Gene: WaterT\_75 Start: 44346, Stop: 43423, Start Num: 32

Candidate Starts for WaterT\_75:

(Start: 32 @44346 has 2 MA's), (55, 44268), (Start: 56 @44265 has 1 MA's), (Start: 65 @44235 has 2 MA's), (67, 44217), (110, 44067), (113, 44049), (132, 43941), (133, 43938), (137, 43923), (152, 43875), (163, 43833), (184, 43809), (187, 43785), (190, 43761), (194, 43734), (196, 43728), (226, 43599), (227, 43596), (247, 43527), (259, 43473), (266, 43449),

Gene: Welcome\_76 Start: 43158, Stop: 42298, Start Num: 44

Candidate Starts for Welcome\_76:

(Start: 44 @43158 has 29 MA's), (83, 43041), (103, 42945), (132, 42789), (155, 42705), (189, 42597), (213, 42486), (219, 42471), (225, 42450), (244, 42393),

Gene: Wildwest\_27 Start: 21505, Stop: 22341, Start Num: 58

Candidate Starts for Wildwest\_27:

(Start: 44 @21466 has 29 MA's), (Start: 58 @21505 has 92 MA's), (69, 21556), (75, 21577), (77, 21583), (79, 21592), (84, 21610), (101, 21694), (108, 21724), (121, 21808), (127, 21835), (133, 21859), (150, 21910), (199, 22102), (204, 22126), (224, 22183),

Gene: Wolfstar\_73 Start: 44392, Stop: 43553, Start Num: 44

Candidate Starts for Wolfstar\_73:

(Start: 44 @44392 has 29 MA's), (90, 44239), (102, 44185), (132, 44026), (139, 43999), (149, 43960), (155, 43942), (189, 43834), (196, 43795), (237, 43651), (244, 43627), (256, 43561),

Gene: Yang\_26 Start: 21587, Stop: 22423, Start Num: 58

Candidate Starts for Yang\_26:

(Start: 58 @21587 has 92 MA's), (Start: 64 @21602 has 3 MA's), (84, 21692), (85, 21695), (101, 21776), (111, 21815), (121, 21890), (199, 22184),

Gene: YesChef\_26 Start: 21535, Stop: 22362, Start Num: 58

Candidate Starts for YesChef\_26:

(Start: 58 @21535 has 92 MA's), (84, 21640), (85, 21643), (99, 21718), (101, 21724), (121, 21835), (127, 21862), (150, 21937), (199, 22129), (204, 22153),

Gene: Yuma\_73 Start: 42667, Stop: 41807, Start Num: 44

Candidate Starts for Yuma\_73:

(Start: 44 @42667 has 29 MA's), (83, 42550), (103, 42454), (132, 42298), (155, 42214), (189, 42106), (213, 41995), (219, 41980), (225, 41959), (244, 41902),

Gene: Zeta1847\_26 Start: 21229, Stop: 22101, Start Num: 58

Candidate Starts for Zeta1847\_26:

(Start: 58 @21229 has 92 MA's), (66, 21259), (75, 21301), (101, 21418), (102, 21421), (103, 21424), (121, 21541), (134, 21595), (141, 21622), (152, 21655), (172, 21721), (194, 21805), (204, 21859), (224, 21916), (234, 21946), (243, 21979),

Gene: phiBT1\_1 Start: 20650, Stop: 21495, Start Num: 60

Candidate Starts for phiBT1\_1:

(Start: 60 @20650 has 13 MA's), (75, 20716), (84, 20749), (92, 20791), (98, 20827), (101, 20836), (138, 21019), (141, 21028), (143, 21040), (151, 21058), (158, 21100), (161, 21106), (183, 21172), (190, 21223), (199, 21280), (254, 21466),

Gene: phiSASD1\_1 Start: 19051, Stop: 19908, Start Num: 59

Candidate Starts for phiSASD1\_1:

(59, 19051), (75, 19120), (84, 19153), (92, 19195), (101, 19240), (119, 19339), (121, 19351), (122, 19354), (133, 19402), (140, 19429), (141, 19432), (164, 19522), (183, 19588), (190, 19639), (193, 19663), (199, 19696), (249, 19858), (253, 19876), (254, 19879),