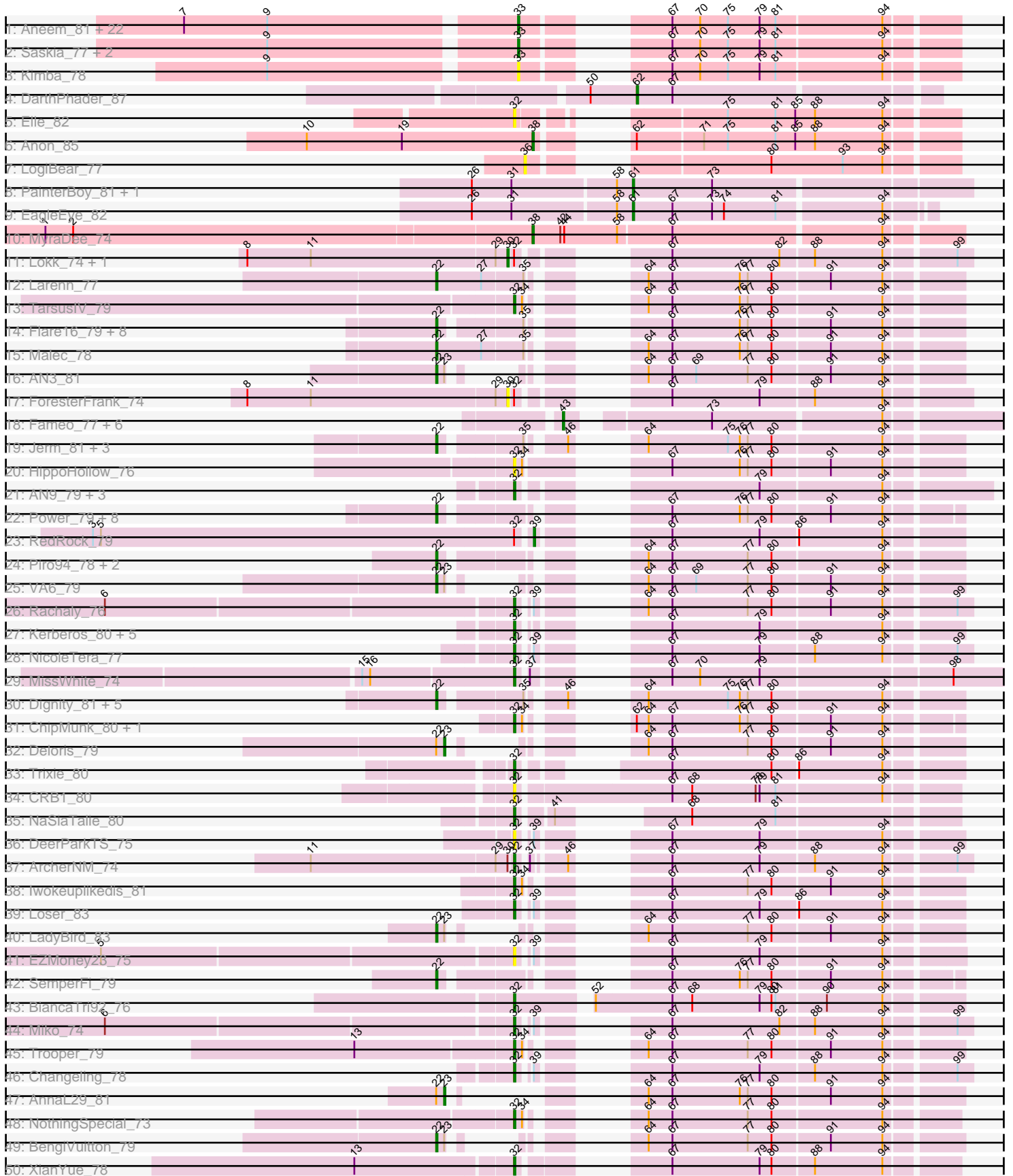
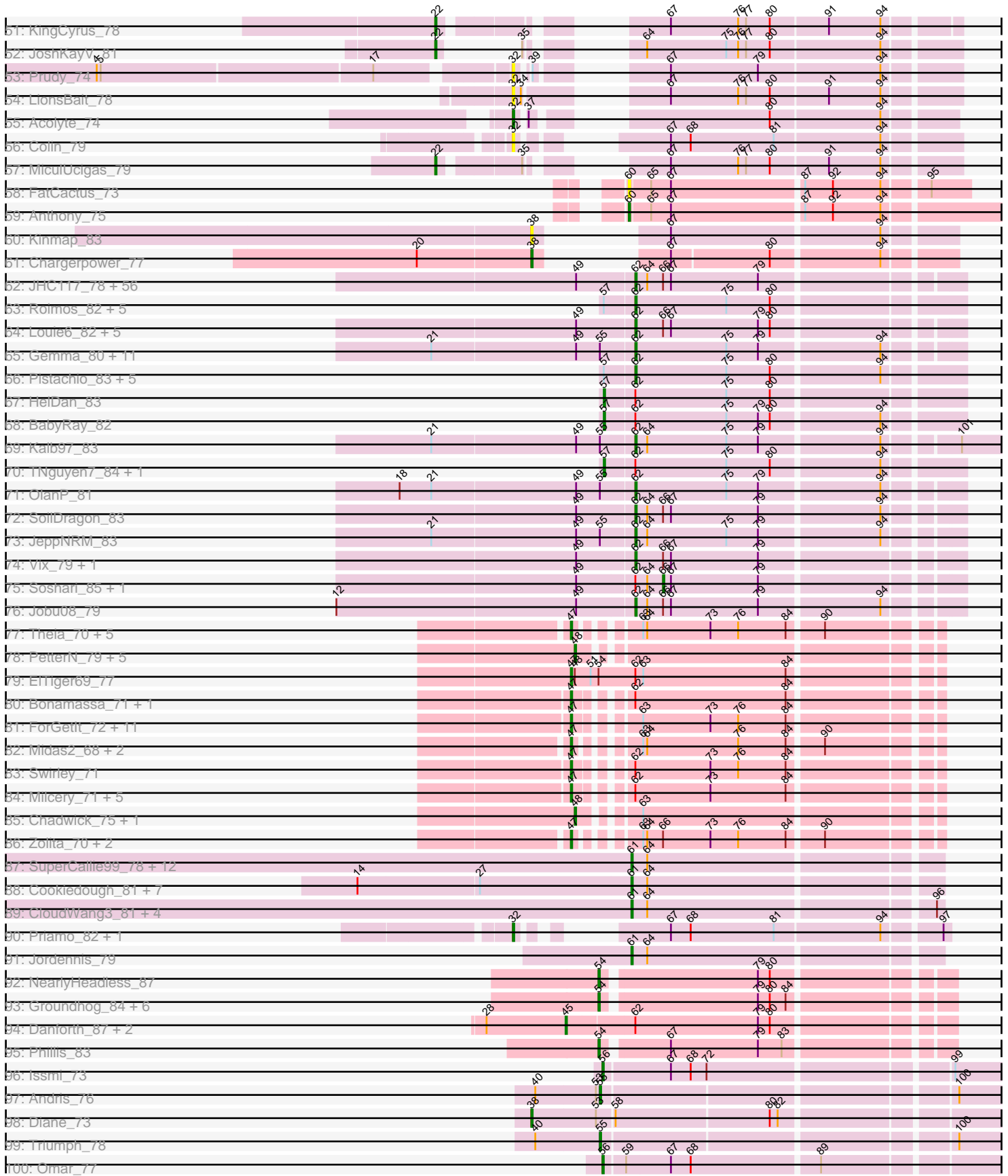


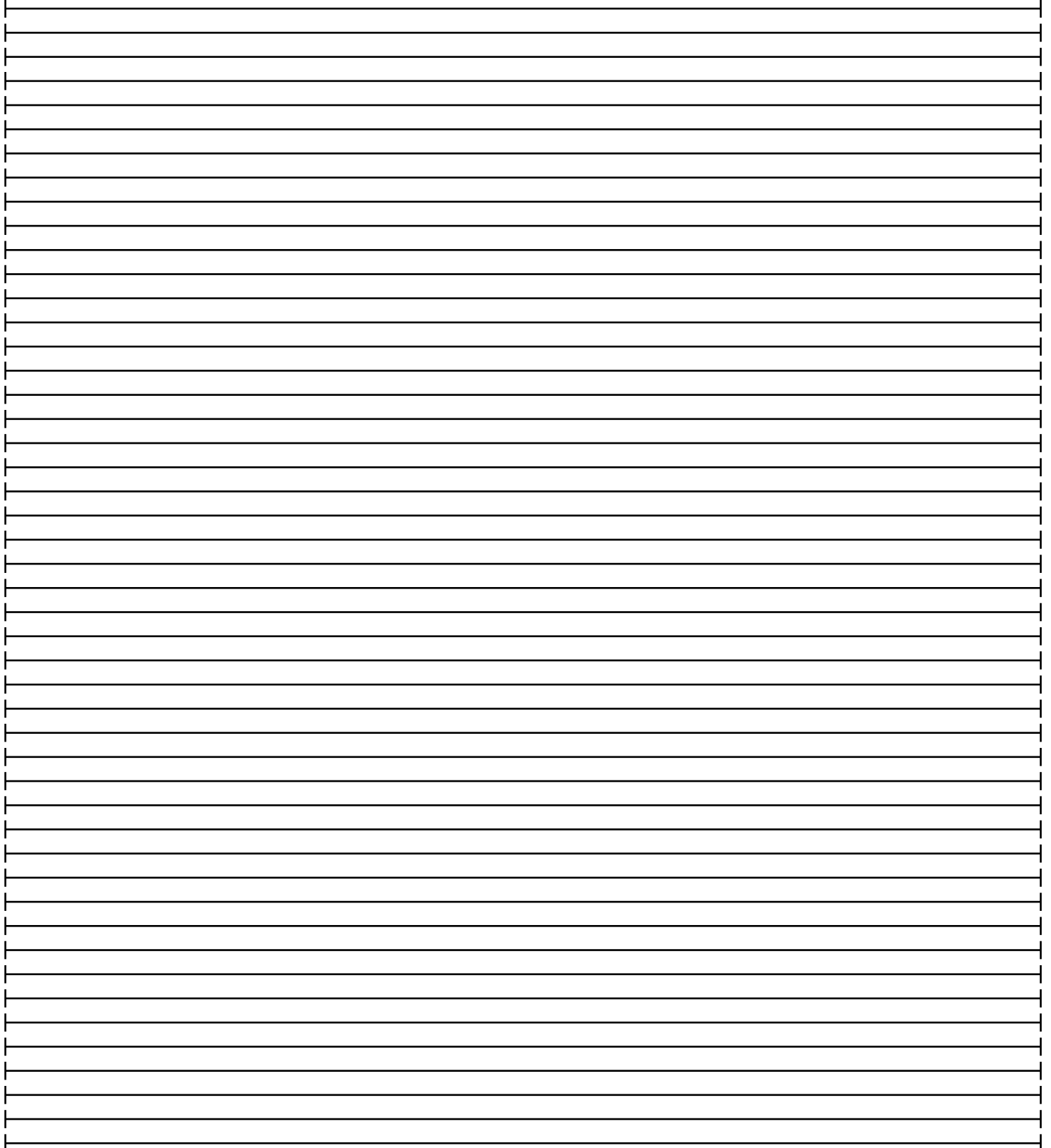
Pham 311139



Pham 311139



Pham 311139



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 311139 Report

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

Pham number 311139 has 318 members, 38 are drafts.

Phages represented in each track:

- Track 1 : Aneem\_81, Mabel\_80, Lucivia\_81, Orange\_80, MaCh\_80, Sham4\_76, Fibonacci\_79, Bud\_75, Et2Brutus\_79, Gilberta\_77, Timothy\_80, Snape\_80, TinyTimmy\_79, Joselito\_79, Petersenfast\_74, Salz\_75, Munch\_80, Wolpertinger\_79, Flaverint\_81, Insomnia\_79, Mulciber\_78, Hutc2\_76, Jabith\_79
- Track 2 : Saskia\_77, Bachome\_78, Ebony\_80
- Track 3 : Kimba\_78
- Track 4 : DarthPhader\_87
- Track 5 : Elle\_82
- Track 6 : Anon\_85
- Track 7 : LogiBear\_77
- Track 8 : PainterBoy\_81, Lucyedi\_81
- Track 9 : EagleEye\_82
- Track 10 : MyraDee\_74
- Track 11 : Lokk\_74, BobSwaget\_73
- Track 12 : Larenn\_77
- Track 13 : TarsusIV\_79
- Track 14 : Flare16\_79, Centaur\_79, Baehexic\_78, WideWale\_80, Gratitude\_77, Updawn\_80, Equemioh13\_79, Terrific\_80, Sknot\_79
- Track 15 : Malec\_78
- Track 16 : AN3\_81
- Track 17 : ForesterFrank\_74
- Track 18 : Fameo\_77, Anselm\_80, QueenB2\_76, Dalmatian\_79, Heffalump\_76, DudeLittle\_77, Retro23\_79
- Track 19 : Jerm\_81, Agape74\_81, LilTurb\_80, Buggy\_81
- Track 20 : HippoHollow\_76
- Track 21 : AN9\_79, VC3\_78, ANI8\_79, C3\_72
- Track 22 : Power\_79, FiringLine\_79, Georgie2\_81, First\_0080, 20ES\_81, SweetiePie\_79, Crucio\_79, QueenBeesly\_79, SnapTap\_79
- Track 23 : RedRock\_79
- Track 24 : Piro94\_78, HarryHoudini\_79, Drake55\_80
- Track 25 : VA6\_79
- Track 26 : Rachaly\_76
- Track 27 : Kerberos\_80, DBQu4n\_80, Travvers\_80, StarStuff\_80, Pomar16\_80, Tomathan\_80
- Track 28 : NicoleTera\_77
- Track 29 : MissWhite\_74

- Track 30 : Dignity\_81, Leviathan\_81, Turbido\_80, Whabigail7\_79, AbbyPaige\_81, Smeagan\_82
- Track 31 : ChipMunk\_80, EvilGenius\_79
- Track 32 : Deloris\_79
- Track 33 : Trixie\_80
- Track 34 : CRB1\_80
- Track 35 : NaSiaTalie\_80
- Track 36 : DeerParkTS\_75
- Track 37 : ArcherNM\_74
- Track 38 : Iwokeuplikedis\_81
- Track 39 : Loser\_83
- Track 40 : LadyBird\_83
- Track 41 : EZMoney23\_75
- Track 42 : SemperFi\_79
- Track 43 : BiancaTri92\_76
- Track 44 : Miko\_74
- Track 45 : Trooper\_79
- Track 46 : Changeling\_78
- Track 47 : AnnaL29\_81
- Track 48 : NothingSpecial\_73
- Track 49 : BengiVuitton\_79
- Track 50 : XianYue\_78
- Track 51 : KingCyrus\_78
- Track 52 : JoshKayV\_81
- Track 53 : Prudy\_74
- Track 54 : LionsBait\_78
- Track 55 : Acolyte\_74
- Track 56 : Colin\_79
- Track 57 : MiculUcigas\_79
- Track 58 : FatCactus\_73
- Track 59 : Anthony\_75
- Track 60 : Kinmap\_83
- Track 61 : Chargerpower\_77
- Track 62 : JHC117\_78, HashRod\_84, LugYA\_86, Grum1\_83, Mainiac\_82, Grub\_81, Aglet\_84, Gwennie\_78, Sabinator\_81, Bigflo\_80, Beauxregard13\_82, Cullens\_84, Penny1\_83, Grif\_81, Marie\_81, Malinsilva\_86, EpicPhail\_84, JenCasNa\_84, Stagni\_80, LarryKay\_83, Lilith\_81, Sabia\_81, Farber\_83, Wooldri\_85, PGHhamlin\_85, Snickers\_83, Watson\_82, PotatoSplit\_84, MarQuardt\_83, Pembroke\_83, Phoxy\_83, AugsMagnumOpus\_86, Spike509\_83, Microwolf\_79, SoYo\_80, MuchMore\_86, Ollie\_83, MadMarie\_81, Hercules11\_83, Methuselah\_76, Taurus\_84, Croquant\_80, Montavir\_78, Iowa\_80, MoneyMay\_83, GingkoMaracino\_83, BreSam8\_83, Tiffany\_82, Colbster\_79, P28Green\_83, DaHudson\_82, Fernando\_84, GtownJaz\_83, Rummer\_82, Dieselweasel\_84, Phoebe\_84, LBerry\_84
- Track 63 : Roimos\_82, Scout\_82, Puppy\_84, Heathen\_82, Fred313\_80, Kachowdy\_81
- Track 64 : Louie6\_82, KADY\_80, Bxz2\_78, TinyPebbles\_82, BuzzBuzz\_77, Daishi\_82
- Track 65 : Gemma\_80, Groupthink\_83, PhishRPhriends\_79, Kalnoky\_83, Calvinny\_80, ClownCar\_80, Reba\_78, Pawn\_81, Manu\_82, Marius\_83, HaveUMetTed\_83, Heliosoles\_80
- Track 66 : Pistachio\_83, SaturnRing\_84, Clammy\_84, BlueBird\_85, Bugatti\_84, Giroux\_86

- Track 67 : HelDan\_83
- Track 68 : BabyRay\_82
- Track 69 : Kalb97\_83
- Track 70 : TNguyen7\_84, Idleandcovert\_83
- Track 71 : OlanP\_81
- Track 72 : SoilDragon\_83
- Track 73 : JeppNRM\_83
- Track 74 : Vix\_79, Anubis\_87
- Track 75 : Soshari\_85, StepMih\_83
- Track 76 : Jobu08\_79
- Track 77 : Theia\_70, Bluefalcon\_67, Dublin\_71, MarysWell\_71, Archetta\_69, Micasa\_71
- Track 78 : PetterN\_79, Benedict\_75, Naca\_74, Airmid\_74, Jabiru\_73, Scorpia\_74
- Track 79 : EITiger69\_77
- Track 80 : Bonamassa\_71, HuhtaEnerson15\_69
- Track 81 : ForGetIt\_72, Tiger\_70, PickleBack\_72, Discoknowium\_69, Phlorence\_70, Jovo\_71, AgentM\_71, Florence4\_69, Conspiracy\_72, Lev2\_72, Florence1\_68, Aragog\_71
- Track 82 : Midas2\_68, Cuco\_70, Coog\_68
- Track 83 : Swirley\_71
- Track 84 : Milcery\_71, Prinash11\_69, Tarynearal\_70, Twigg\_70, LittleCherry\_70, George\_66
- Track 85 : Chadwick\_75, UnionJack\_75
- Track 86 : Zolita\_70, SydNat\_71, Ghoulboy\_71
- Track 87 : SuperCallie99\_78, DaVinci\_79, EricB\_80, Dorothea\_81, Candra\_79, SmellyB\_81, McFly\_81, BABullseye\_74, Rifter\_81, Kipper29\_81, Kazan\_82, VohminGhazi\_81, Chartreuse\_80
- Track 88 : Cookiedough\_81, DelvinSonDorr\_77, Neeharika16\_80, Isiphiwo\_78, Hoot\_76, Newrala\_80, Pmask\_80, SuperAwesome\_81
- Track 89 : CloudWang3\_81, Hexamo\_80, Hammer\_81, Gladiator\_77, Gruunaga\_80
- Track 90 : Priamo\_82, Blinn1\_84
- Track 91 : Jordennis\_79
- Track 92 : NearlyHeadless\_87
- Track 93 : Groundhog\_84, Astro\_86, Caitlin\_85, Expelliarmus\_83, Roary\_88, Dixon\_85, Smeadley\_86
- Track 94 : Danforth\_87, Saintus\_82, Stephig9\_85
- Track 95 : Phillis\_83
- Track 96 : Issmi\_73
- Track 97 : Andris\_76
- Track 98 : Diane\_73
- Track 99 : Triumph\_78
- Track 100 : Omar\_77
- Track 101 : BroPlease\_71
- Track 102 : GreenWeasel\_73

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

The start number called the most often in the published annotations is 62, it was called in 83 of the 280 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aglet\_84, Anubis\_87, AugsMagnumOpus\_86, Beauxregard13\_82, Bigflo\_80, BlueBird\_85, BreSam8\_83, Bugatti\_84, BuzzBuzz\_77, Bxz2\_78, Calvinny\_80, Clammy\_84, ClownCar\_80, Colbster\_79, Croquant\_80, Cullens\_84, DaHudson\_82, Daishi\_82, DarthPhader\_87, Dieselweasel\_84, EpicPhail\_84, Farber\_83, Fernando\_84, Fred313\_80, Gemma\_80, GingkoMaracino\_83, Giroux\_86, Grif\_81, Groupthink\_83, Grub\_81, Grum1\_83, GtownJaz\_83, Gwennie\_78, HashRod\_84, HaveUMetTed\_83, Heathen\_82, Heliosoles\_80, Hercules11\_83, JHC117\_78, JenCasNa\_84, JeppNRM\_83, Jobu08\_79, KADY\_80, Kachowdy\_81, Kalb97\_83, Kalnok\_83, LBerry\_84, LarryKay\_83, Lilith\_81, Louie6\_82, Iowa\_80, LugYA\_86, MadMarie\_81, Mainiac\_82, Malinsilva\_86, Manu\_82, MarQuardt\_83, Marie\_81, Marius\_83, Methuselah\_76, Microwolf\_79, MoneyMay\_83, Montavir\_78, MuchMore\_86, OlanP\_81, Ollie\_83, P28Green\_83, PGHhamlin\_85, Pawn\_81, Pembroke\_83, Penny1\_83, PhishRPhriends\_79, Phoebe\_84, Phoxy\_83, Pistachio\_83, PotatoSplit\_84, Puppy\_84, Reba\_78, Roimos\_82, Rummer\_82, Sabia\_81, Sabinator\_81, SaturnRing\_84, Scout\_82, Snickers\_83, SoYo\_80, SoilDragon\_83, Spike509\_83, Stagni\_80, Taurus\_84, Tiffany\_82, TinyPebbles\_82, Vix\_79, Watson\_82, Wooldri\_85,

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

- Anon\_85, BabyRay\_82, Bonamassa\_71, ChipMunk\_80, Danforth\_87, EITiger69\_77, EvilGenius\_79, George\_66, HelDan\_83, HuhtaEnerson15\_69, Idleandcovert\_83, LittleCherry\_70, Milcery\_71, Prinash11\_69, Saintus\_82, Soshari\_85, StepMih\_83, Stephig9\_85, Swirley\_71, TNguyen7\_84, Tarynearal\_70, Twigg\_70,

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

- 20ES\_81, AN3\_81, AN9\_79, ANI8\_79, AbbyPaige\_81, Acolyte\_74, Agape74\_81, AgentM\_71, Airmid\_74, Andris\_76, Aneem\_81, AnnaL29\_81, Anselm\_80, Anthony\_75, Aragog\_71, ArcherNM\_74, Archetta\_69, Astro\_86, BABullseye\_74, Bachome\_78, Baehexic\_78, Benedict\_75, BengiVuitton\_79, BiancaTri92\_76, Blinn1\_84, Bluefalcon\_67, BobSwaget\_73, BroPlease\_71, Bud\_75, Buggy\_81, C3\_72, CRB1\_80, Caitlin\_85, Candra\_79, Centaur\_79, Chadwick\_75, Changeling\_78, Chargerpower\_77, Chartreuse\_80, CloudWang3\_81, Colin\_79, Conspiracy\_72, Coog\_68, Cookiedough\_81, Crucio\_79, Cuco\_70, DBQu4n\_80, DaVinci\_79, Dalmatian\_79, DeerParkTS\_75, Deloris\_79, DelvinSonDorr\_77, Diane\_73, Dignity\_81, Discoknowium\_69, Dixon\_85, Dorothea\_81, Drake55\_80, Dublin\_71, DudeLittle\_77, EZMoney23\_75, EagleEye\_82, Ebony\_80, Elle\_82, Equemioh13\_79, EricB\_80, Et2Brutus\_79, Expelliarmus\_83, Fameo\_77, FatCactus\_73, Fibonacci\_79, FiringLine\_79, First\_0080, Flare16\_79, Flaverint\_81, Florence1\_68, Florence4\_69, ForGetIt\_72, ForesterFrank\_74, Georgie2\_81, Ghoulyboy\_71, Gilberta\_77, Gladiator\_77, Gratitude\_77, GreenWeasel\_73, Groundhog\_84, Gruunaga\_80, Hammer\_81, HarryHoudini\_79, Heffalump\_76, Hexamo\_80, HippoHollow\_76, Hoot\_76, Hutc2\_76, Insomnia\_79, Isiphiwo\_78, Issmi\_73, Iwokeuplikedis\_81, Jabiru\_73, Jabith\_79, Jerm\_81, Jordennis\_79, Joselito\_79, JoshKayV\_81, Jovo\_71, Kazan\_82, Kerberos\_80, Kimba\_78, KingCyrus\_78, Kinmap\_83, Kipper29\_81, LadyBird\_83, Larenn\_77, Lev2\_72, Leviathan\_81, LilTurb\_80, LionsBait\_78, LogiBear\_77, Lokk\_74, Loser\_83, Lucivia\_81, Lucyedi\_81, MaCh\_80, Mabel\_80, Malec\_78, MarysWell\_71, McFly\_81, Micasa\_71, MiculUcigas\_79, Midas2\_68, Miko\_74, MissWhite\_74, Mulciber\_78, Munch\_80, MyraDee\_74, NaSiaTalie\_80, Naca\_74, NearlyHeadless\_87, Neeharika16\_80, Newrala\_80, NicoleTera\_77, NothingSpecial\_73, Omar\_77, Orange\_80, PainterBoy\_81, Petersenfast\_74, PetterN\_79, Phillis\_83, Phlorence\_70, PickleBack\_72, Piro94\_78, Pmask\_80, Pomar16\_80, Power\_79, Priamo\_82,

Prudy\_74, QueenB2\_76, QueenBeesly\_79, Rachaly\_76, RedRock\_79, Retro23\_79, Rifter\_81, Roary\_88, Salz\_75, Saskia\_77, Scorpia\_74, SemperFi\_79, Sham4\_76, Sknot\_79, Smeadley\_86, Smeagan\_82, SmellyB\_81, SnapTap\_79, Snape\_80, StarStuff\_80, SuperAwesome\_81, SuperCallie99\_78, SweetiePie\_79, SydNat\_71, TarsusIV\_79, Terrific\_80, Theia\_70, Tiger\_70, Timothy\_80, TinyTimmy\_79, Tomathan\_80, Travvers\_80, Triumph\_78, Trixie\_80, Trooper\_79, Turbido\_80, UnionJack\_75, Updawg\_80, VA6\_79, VC3\_78, VohminGhazi\_81, Whabigail7\_79, WideWale\_80, Wolpertinger\_79, XianYue\_78, Zolita\_70,

### Summary by start number:

#### Start 22:

- Found in 43 of 318 ( 13.5% ) of genes in pham
- Manual Annotations of this start: 37 of 280
- Called 95.3% of time when present
- Phage (with cluster) where this start called: 20ES\_81 (A2), AN3\_81 (A2), AbbyPaige\_81 (A2), Agape74\_81 (A2), Baehexic\_78 (A2), BengiVuitton\_79 (A2), Buggy\_81 (A2), Centaur\_79 (A2), Crucio\_79 (A2), Dignity\_81 (A2), Drake55\_80 (A2), Equemioh13\_79 (A2), FiringLine\_79 (A2), First\_0080 (A2), Flare16\_79 (A2), Georgie2\_81 (A2), Gratitude\_77 (A2), HarryHoudini\_79 (A2), Jerm\_81 (A2), JoshKayV\_81 (A2), KingCyrus\_78 (A2), LadyBird\_83 (A2), Larenn\_77 (A2), Leviathan\_81 (A2), LilTurb\_80 (A2), Malec\_78 (A2), MiculUcigas\_79 (A2), Piro94\_78 (A2), Power\_79 (A2), QueenBeesly\_79 (A2), SemperFi\_79 (A2), Sknot\_79 (A2), Smeagan\_82 (A2), SnapTap\_79 (A2), SweetiePie\_79 (A2), Terrific\_80 (A2), Turbido\_80 (A2), Updawg\_80 (A2), VA6\_79 (A2), Whabigail7\_79 (A2), WideWale\_80 (A2),

#### Start 23:

- Found in 6 of 318 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 2 of 280
- Called 33.3% of time when present
- Phage (with cluster) where this start called: AnnaL29\_81 (A2), Deloris\_79 (A2),

#### Start 30:

- Found in 4 of 318 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 2 of 280
- Called 75.0% of time when present
- Phage (with cluster) where this start called: BobSwaget\_73 (A2), ForesterFrank\_74 (A2), Lokk\_74 (A2),

#### Start 32:

- Found in 42 of 318 ( 13.2% ) of genes in pham
- Manual Annotations of this start: 29 of 280
- Called 90.5% of time when present
- Phage (with cluster) where this start called: AN9\_79 (A2), ANI8\_79 (A2), Acolyte\_74 (A2), ArcherNM\_74 (A2), BiancaTri92\_76 (A2), Blinn1\_84 (A6), C3\_72 (A2), CRB1\_80 (A2), Changeling\_78 (A2), ChipMunk\_80 (A2), Colin\_79 (A2), DBQu4n\_80 (A2), DeerParkTS\_75 (A2), EZMoney23\_75 (A2), Elle\_82 (A15), EvilGenius\_79 (A2), HippoHollow\_76 (A2), Iwokeuplikedis\_81 (A2), Kerberos\_80 (A2), LionsBait\_78 (A2), Loser\_83 (A2), Miko\_74 (A2), MissWhite\_74 (A2), NaSiaTalie\_80 (A2), NicoleTera\_77 (A2), NothingSpecial\_73 (A2), Pomar16\_80 (A2), Priamo\_82 (A6), Prudy\_74 (A2), Rachaly\_76 (A2), StarStuff\_80 (A2), TarsusIV\_79 (A2), Tomathan\_80 (A2), Travvers\_80 (A2), Trixie\_80 (A2), Trooper\_79 (A2), VC3\_78 (A2), XianYue\_78

(A2),

Start 33:

- Found in 27 of 318 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 23 of 280
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aneem\_81 (A11), Bachome\_78 (A11), Bud\_75 (A11), Ebony\_80 (A11), Et2Brutus\_79 (A11), Fibonacci\_79 (A11), Flaverint\_81 (A11), Gilberta\_77 (A11), Hutc2\_76 (A11), Insomnia\_79 (A11), Jabith\_79 (A11), Joselito\_79 (A11), Kimba\_78 (A11), Lucivia\_81 (A11), MaCh\_80 (A11), Mabel\_80 (A11), Mulciber\_78 (A11), Munch\_80 (A11), Orange\_80 (A11), Petersenfast\_74 (A11), Salz\_75 (A11), Saskia\_77 (A11), Sham4\_76 (A11), Snape\_80 (A11), Timothy\_80 (A11), TinyTimmy\_79 (A11), Wolpertinger\_79 (A11),

Start 36:

- Found in 1 of 318 ( 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: LogiBear\_77 (A15),

Start 38:

- Found in 5 of 318 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 4 of 280
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anon\_85 (A15), Chargerpower\_77 (A22), Diane\_73 (BD2), Kinmap\_83 (A21), MyraDee\_74 (A18),

Start 39:

- Found in 9 of 318 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 1 of 280
- Called 11.1% of time when present
- Phage (with cluster) where this start called: RedRock\_79 (A2),

Start 43:

- Found in 7 of 318 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 7 of 280
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anselm\_80 (A2), Dalmatian\_79 (A2), DudeLittle\_77 (A2), Fameo\_77 (A2), Heffalump\_76 (A2), QueenB2\_76 (A2), Retro23\_79 (A2),

Start 45:

- Found in 3 of 318 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 3 of 280
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Danforth\_87 (A8), Saintus\_82 (A8), Stephig9\_85 (A8),

Start 47:

- Found in 34 of 318 ( 10.7% ) of genes in pham
- Manual Annotations of this start: 31 of 280
- Called 100.0% of time when present

- Phage (with cluster) where this start called: AgentM\_71 (A5), Aragog\_71 (A5), Archetta\_69 (A5), Bluefalcon\_67 (A5), Bonamassa\_71 (A5), Conspiracy\_72 (A5), Coog\_68 (A5), Cuco\_70 (A5), Discoknowium\_69 (A5), Dublin\_71 (A5), EITiger69\_77 (A5), Florence1\_68 (A5), Florence4\_69 (A5), ForGetIt\_72 (A5), George\_66 (A5), Ghouboy\_71 (A5), HuhtaEnerson15\_69 (A5), Jovo\_71 (A5), Lev2\_72 (A5), LittleCherry\_70 (A5), MarysWell\_71 (A5), Micasa\_71 (A5), Midas2\_68 (A5), Milcery\_71 (A5), Phlorence\_70 (A5), PickleBack\_72 (A5), Prinashe11\_69 (A5), Swirley\_71 (A5), SydNat\_71 (A5), Tarynearal\_70 (A5), Theia\_70 (A5), Tiger\_70 (A5), Twigg\_70 (A5), Zolita\_70 (A5),

#### Start 48:

- Found in 9 of 318 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 8 of 280
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Airmid\_74 (A5), Benedict\_75 (A5), Chadwick\_75 (A5), Jabiru\_73 (A5), Naca\_74 (A5), PetterN\_79 (A5), Scorpia\_74 (A5), UnionJack\_75 (A5),

#### Start 54:

- Found in 10 of 318 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 9 of 280
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Astro\_86 (A8), Caitlin\_85 (A8), Dixon\_85 (A8), Expelliarmus\_83 (A8), Groundhog\_84 (A8), NearlyHeadless\_87 (A8), Phillis\_83 (A8), Roary\_88 (A8), Smeadley\_86 (A8),

#### Start 55:

- Found in 19 of 318 ( 6.0% ) of genes in pham
- Manual Annotations of this start: 4 of 280
- Called 21.1% of time when present
- Phage (with cluster) where this start called: Andris\_76 (BD2), BroPlease\_71 (BD4), GreenWeasel\_73 (BD4), Triumph\_78 (BD2),

#### Start 56:

- Found in 2 of 318 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 280
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Issmi\_73 (BD2), Omar\_77 (BD2),

#### Start 57:

- Found in 16 of 318 ( 5.0% ) of genes in pham
- Manual Annotations of this start: 4 of 280
- Called 25.0% of time when present
- Phage (with cluster) where this start called: BabyRay\_82 (A3), HelDan\_83 (A3), Idleandcovert\_83 (A3), TNguyen7\_84 (A3),

#### Start 60:

- Found in 2 of 318 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 280
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_75 (A20), FatCactus\_73 (A20),

#### Start 61:

- Found in 30 of 318 ( 9.4% ) of genes in pham
- Manual Annotations of this start: 28 of 280
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BABullseye\_74 (A6), Candra\_79 (A6), Chartreuse\_80 (A6), CloudWang3\_81 (A6), Cookiedough\_81 (A6), DaVinci\_79 (A6), DelvinSonDorr\_77 (A6), Dorothea\_81 (A6), EagleEye\_82 (A16), EricB\_80 (A6), Gladiator\_77 (A6), Gruunaga\_80 (A6), Hammer\_81 (A6), Hexamo\_80 (A6), Hoot\_76 (A6), Isiphiwo\_78 (A6), Jordennis\_79 (A6), Kazan\_82 (A6), Kipper29\_81 (A6), Lucyedi\_81 (A16), McFly\_81 (A6), Neeharika16\_80 (A6), Newrala\_80 (A6), PainterBoy\_81 (A16), Pmask\_80 (A6), Rifter\_81 (A6), SmellyB\_81 (A6), SuperAwesome\_81 (A6), SuperCallie99\_78 (A6), VohminGhazi\_81 (A6),

Start 62:

- Found in 117 of 318 ( 36.8% ) of genes in pham
- Manual Annotations of this start: 83 of 280
- Called 81.2% of time when present
- Phage (with cluster) where this start called: Aglet\_84 (A3), Anubis\_87 (A3), AugsMagnumOpus\_86 (A3), Beauxregard13\_82 (A3), Bigflo\_80 (A3), BlueBird\_85 (A3), BreSam8\_83 (A3), Bugatti\_84 (A3), BuzzBuzz\_77 (A3), Bxz2\_78 (A3), Calvinny\_80 (A3), Clammy\_84 (A3), ClownCar\_80 (A3), Colbster\_79 (A3), Croquant\_80 (A3), Cullens\_84 (A3), DaHudson\_82 (A3), Daishi\_82 (A3), DARTHPhader\_87 (A12), Dieselweasel\_84 (A3), EpicPhail\_84 (A3), Farber\_83 (A3), Fernando\_84 (A3), Fred313\_80 (A3), Gemma\_80 (A3), GingkoMaracino\_83 (A3), Giroux\_86 (A3), Grif\_81 (A3), Groupthink\_83 (A3), Grub\_81 (A3), Grum1\_83 (A3), GtownJaz\_83 (A3), Gwennie\_78 (A3), HashRod\_84 (A3), HaveUMetTed\_83 (A3), Heathen\_82 (A3), Heliosoles\_80 (A3), Hercules11\_83 (A3), JHC117\_78 (A3), JenCasNa\_84 (A3), JeppNRM\_83 (A3), Jobu08\_79 (A3), KADY\_80 (A3), Kachowdy\_81 (A3), Kalb97\_83 (A3), Kalnoky\_83 (A3), LBerry\_84 (A3), LarryKay\_83 (A3), Lilith\_81 (A3), Louie6\_82 (A3), Lowa\_80 (A3), LugYA\_86 (A3), MadMarie\_81 (A3), Mainiac\_82 (A3), Malinsilva\_86 (A3), Manu\_82 (A3), MarQuardt\_83 (A3), Marie\_81 (A3), Marius\_83 (A3), Methuselah\_76 (A3), Microwolf\_79 (A3), MoneyMay\_83 (A3), Montavir\_78 (A3), MuchMore\_86 (A3), OlanP\_81 (A3), Ollie\_83 (A3), P28Green\_83 (A3), PGHhamlin\_85 (A3), Pawn\_81 (A3), Pembroke\_83 (A3), Penny1\_83 (A3), PhishRPhriends\_79 (A3), Phoebe\_84 (A3), Phoxy\_83 (A3), Pistachio\_83 (A3), PotatoSplit\_84 (A3), Puppy\_84 (A3), Reba\_78 (A3), Roimos\_82 (A3), Rummer\_82 (A3), Sabia\_81 (A3), Sabinator\_81 (A3), SaturnRing\_84 (A3), Scout\_82 (A3), Snickers\_83 (A3), SoYo\_80 (A3), SoilDragon\_83 (A3), Spike509\_83 (A3), Stagni\_80 (A3), Taurus\_84 (A3), Tiffany\_82 (A3), TinyPebbles\_82 (A3), Vix\_79 (A3), Watson\_82 (A3), Wooldri\_85 (A3),

Start 66:

- Found in 72 of 318 ( 22.6% ) of genes in pham
- Manual Annotations of this start: 2 of 280
- Called 2.8% of time when present
- Phage (with cluster) where this start called: Soshari\_85 (A3), StepMih\_83 (A3),

### Summary by clusters:

There are 15 clusters represented in this pham: A15, A20, A22, A16, A11, A21, BD2, A18, BD4, A3, A2, A5, A12, A6, A8,

Info for manual annotations of cluster A11:

- Start number 33 was manually annotated 23 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 62 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A15:

- Start number 38 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster A16:

- Start number 61 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 38 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:

- Start number 22 was manually annotated 37 times for cluster A2.
- Start number 23 was manually annotated 2 times for cluster A2.
- Start number 30 was manually annotated 2 times for cluster A2.
- Start number 32 was manually annotated 27 times for cluster A2.
- Start number 39 was manually annotated 1 time for cluster A2.
- Start number 43 was manually annotated 7 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 60 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A22:

- Start number 38 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A3:

- Start number 57 was manually annotated 4 times for cluster A3.
- Start number 62 was manually annotated 82 times for cluster A3.
- Start number 66 was manually annotated 2 times for cluster A3.

Info for manual annotations of cluster A5:

- Start number 47 was manually annotated 31 times for cluster A5.
- Start number 48 was manually annotated 8 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 32 was manually annotated 2 times for cluster A6.
- Start number 61 was manually annotated 25 times for cluster A6.

Info for manual annotations of cluster A8:

- Start number 45 was manually annotated 3 times for cluster A8.
- Start number 54 was manually annotated 9 times for cluster A8.

Info for manual annotations of cluster BD2:

- Start number 38 was manually annotated 1 time for cluster BD2.
- Start number 55 was manually annotated 2 times for cluster BD2.
- Start number 56 was manually annotated 2 times for cluster BD2.

Info for manual annotations of cluster BD4:

- Start number 55 was manually annotated 2 times for cluster BD4.

**Gene Information:**

Gene: 20ES\_81 Start: 46774, Stop: 46457, Start Num: 22

Candidate Starts for 20ES\_81:

(Start: 22 @46774 has 37 MA's), (67, 46663), (76, 46612), (77, 46606), (80, 46588), (91, 46546), (94, 46507),

Gene: AN3\_81 Start: 45387, Stop: 45106, Start Num: 22

Candidate Starts for AN3\_81:

(Start: 22 @45387 has 37 MA's), (Start: 23 @45381 has 2 MA's), (64, 45333), (67, 45315), (69, 45297), (77, 45258), (80, 45240), (91, 45198), (94, 45159),

Gene: AN9\_79 Start: 45517, Stop: 45221, Start Num: 32

Candidate Starts for AN9\_79:

(Start: 32 @45517 has 29 MA's), (79, 45385), (94, 45295),

Gene: ANI8\_79 Start: 45517, Stop: 45221, Start Num: 32

Candidate Starts for ANI8\_79:

(Start: 32 @45517 has 29 MA's), (79, 45385), (94, 45295),

Gene: AbbyPaige\_81 Start: 47049, Stop: 46729, Start Num: 22

Candidate Starts for AbbyPaige\_81:

(Start: 22 @47049 has 37 MA's), (35, 46995), (46, 46974), (64, 46956), (75, 46896), (76, 46887), (77, 46881), (80, 46863), (94, 46782),

Gene: Acolyte\_74 Start: 46022, Stop: 45753, Start Num: 32

Candidate Starts for Acolyte\_74:

(Start: 32 @46022 has 29 MA's), (37, 46016), (80, 45884), (94, 45803),

Gene: Agape74\_81 Start: 47043, Stop: 46723, Start Num: 22

Candidate Starts for Agape74\_81:

(Start: 22 @47043 has 37 MA's), (35, 46989), (46, 46968), (64, 46950), (75, 46890), (76, 46881), (77, 46875), (80, 46857), (94, 46776),

Gene: AgentM\_71 Start: 44359, Stop: 44114, Start Num: 47

Candidate Starts for AgentM\_71:

(Start: 47 @44359 has 31 MA's), (63, 44323), (73, 44272), (76, 44251), (84, 44215),

Gene: Aglet\_84 Start: 46272, Stop: 46042, Start Num: 62

Candidate Starts for Aglet\_84:

(49, 46314), (Start: 62 @46272 has 83 MA's), (64, 46263), (Start: 66 @46251 has 2 MA's), (67, 46245), (79, 46179),

Gene: Airmid\_74 Start: 45167, Stop: 44925, Start Num: 48

Candidate Starts for Airmid\_74:

(Start: 48 @45167 has 8 MA's),

Gene: Andris\_76 Start: 46916, Stop: 46623, Start Num: 55

Candidate Starts for Andris\_76:

(40, 46964), (53, 46919), (Start: 55 @46916 has 4 MA's), (100, 46667),

Gene: Aneem\_81 Start: 45984, Stop: 45709, Start Num: 33  
Candidate Starts for Aneem\_81:  
(7, 46224), (9, 46161), (Start: 33 @45984 has 23 MA's), (67, 45915), (70, 45894), (75, 45873), (79, 45849), (81, 45837), (94, 45759),

Gene: AnnaL29\_81 Start: 47245, Stop: 46979, Start Num: 23  
Candidate Starts for AnnaL29\_81:  
(Start: 22 @47251 has 37 MA's), (Start: 23 @47245 has 2 MA's), (64, 47206), (67, 47188), (76, 47137), (77, 47131), (80, 47113), (91, 47071), (94, 47032),

Gene: Anon\_85 Start: 46676, Stop: 46413, Start Num: 38  
Candidate Starts for Anon\_85:  
(10, 46847), (19, 46775), (Start: 38 @46676 has 4 MA's), (Start: 62 @46646 has 83 MA's), (71, 46598), (75, 46580), (81, 46544), (85, 46529), (88, 46514), (94, 46463),

Gene: Anselm\_80 Start: 46936, Stop: 46634, Start Num: 43  
Candidate Starts for Anselm\_80:  
(Start: 43 @46936 has 7 MA's), (73, 46846), (94, 46723),

Gene: Anthony\_75 Start: 45522, Stop: 45256, Start Num: 60  
Candidate Starts for Anthony\_75:  
(Start: 60 @45522 has 1 MA's), (65, 45507), (67, 45492), (87, 45396), (92, 45375), (94, 45339),

Gene: Anubis\_87 Start: 46158, Stop: 45928, Start Num: 62  
Candidate Starts for Anubis\_87:  
(49, 46200), (Start: 62 @46158 has 83 MA's), (Start: 66 @46137 has 2 MA's), (67, 46131), (79, 46065),

Gene: Aragog\_71 Start: 44377, Stop: 44132, Start Num: 47  
Candidate Starts for Aragog\_71:  
(Start: 47 @44377 has 31 MA's), (63, 44341), (73, 44290), (76, 44269), (84, 44233),

Gene: ArcherNM\_74 Start: 46349, Stop: 46071, Start Num: 32  
Candidate Starts for ArcherNM\_74:  
(11, 46499), (29, 46361), (Start: 30 @46352 has 2 MA's), (Start: 32 @46349 has 29 MA's), (37, 46343), (46, 46322), (67, 46286), (79, 46220), (88, 46181), (94, 46130), (99, 46082),

Gene: Archetta\_69 Start: 44318, Stop: 44076, Start Num: 47  
Candidate Starts for Archetta\_69:  
(Start: 47 @44318 has 31 MA's), (63, 44285), (64, 44282), (73, 44234), (76, 44213), (84, 44177), (90, 44153),

Gene: Astro\_86 Start: 46880, Stop: 46638, Start Num: 54  
Candidate Starts for Astro\_86:  
(Start: 54 @46880 has 9 MA's), (79, 46769), (80, 46760), (84, 46748),

Gene: AugsMagnumOpus\_86 Start: 46260, Stop: 46030, Start Num: 62  
Candidate Starts for AugsMagnumOpus\_86:  
(49, 46302), (Start: 62 @46260 has 83 MA's), (64, 46251), (Start: 66 @46239 has 2 MA's), (67, 46233), (79, 46167),

Gene: BABullseye\_74 Start: 43477, Stop: 43256, Start Num: 61  
Candidate Starts for BABullseye\_74:  
(Start: 61 @43477 has 28 MA's), (64, 43465),

Gene: BabyRay\_82 Start: 46614, Stop: 46357, Start Num: 57

Candidate Starts for BabyRay\_82:

(Start: 57 @46614 has 4 MA's), (Start: 62 @46593 has 83 MA's), (75, 46524), (79, 46500), (80, 46491), (94, 46413),

Gene: Bachome\_78 Start: 44864, Stop: 44589, Start Num: 33

Candidate Starts for Bachome\_78:

(9, 45041), (Start: 33 @44864 has 23 MA's), (67, 44795), (70, 44774), (75, 44753), (79, 44729), (81, 44717), (94, 44639),

Gene: Baehexic\_78 Start: 46443, Stop: 46123, Start Num: 22

Candidate Starts for Baehexic\_78:

(Start: 22 @46443 has 37 MA's), (35, 46389), (67, 46332), (76, 46281), (77, 46275), (80, 46257), (91, 46215), (94, 46176),

Gene: Beauxregard13\_82 Start: 46275, Stop: 46045, Start Num: 62

Candidate Starts for Beauxregard13\_82:

(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248), (79, 46182),

Gene: Benedict\_75 Start: 44899, Stop: 44657, Start Num: 48

Candidate Starts for Benedict\_75:

(Start: 48 @44899 has 8 MA's),

Gene: BengiVuitton\_79 Start: 46581, Stop: 46300, Start Num: 22

Candidate Starts for BengiVuitton\_79:

(Start: 22 @46581 has 37 MA's), (Start: 23 @46575 has 2 MA's), (64, 46527), (67, 46509), (77, 46452), (80, 46434), (91, 46392), (94, 46353),

Gene: BiancaTri92\_76 Start: 46264, Stop: 45950, Start Num: 32

Candidate Starts for BiancaTri92\_76:

(Start: 32 @46264 has 29 MA's), (52, 46216), (67, 46159), (68, 46144), (79, 46093), (80, 46084), (81, 46081), (90, 46045), (94, 46003),

Gene: Bigflo\_80 Start: 46271, Stop: 46041, Start Num: 62

Candidate Starts for Bigflo\_80:

(49, 46313), (Start: 62 @46271 has 83 MA's), (64, 46262), (Start: 66 @46250 has 2 MA's), (67, 46244), (79, 46178),

Gene: Blinn1\_84 Start: 45891, Stop: 45631, Start Num: 32

Candidate Starts for Blinn1\_84:

(Start: 32 @45891 has 29 MA's), (67, 45831), (68, 45816), (81, 45753), (94, 45675), (97, 45636),

Gene: BlueBird\_85 Start: 47028, Stop: 46792, Start Num: 62

Candidate Starts for BlueBird\_85:

(Start: 57 @47049 has 4 MA's), (Start: 62 @47028 has 83 MA's), (75, 46959), (80, 46926), (94, 46848),

Gene: Bluefalcon\_67 Start: 44317, Stop: 44075, Start Num: 47

Candidate Starts for Bluefalcon\_67:

(Start: 47 @44317 has 31 MA's), (63, 44284), (64, 44281), (73, 44233), (76, 44212), (84, 44176), (90, 44152),

Gene: BobSwaget\_73 Start: 44446, Stop: 44162, Start Num: 30

Candidate Starts for BobSwaget\_73:

(8, 44641), (11, 44593), (29, 44455), (Start: 30 @44446 has 2 MA's), (Start: 32 @44443 has 29 MA's), (67, 44377), (82, 44296), (88, 44272), (94, 44221), (99, 44173),

Gene: Bonamassa\_71 Start: 44547, Stop: 44302, Start Num: 47

Candidate Starts for Bonamassa\_71:

(Start: 47 @44547 has 31 MA's), (Start: 62 @44517 has 83 MA's), (84, 44403),

Gene: BreSam8\_83 Start: 46265, Stop: 46035, Start Num: 62

Candidate Starts for BreSam8\_83:

(49, 46307), (Start: 62 @46265 has 83 MA's), (64, 46256), (Start: 66 @46244 has 2 MA's), (67, 46238), (79, 46172),

Gene: BroPlease\_71 Start: 46117, Stop: 45767, Start Num: 55

Candidate Starts for BroPlease\_71:

(24, 46225), (Start: 55 @46117 has 4 MA's), (58, 46105), (67, 46063), (68, 46048), (83, 45979), (89, 45955),

Gene: Bud\_75 Start: 44421, Stop: 44146, Start Num: 33

Candidate Starts for Bud\_75:

(7, 44661), (9, 44598), (Start: 33 @44421 has 23 MA's), (67, 44352), (70, 44331), (75, 44310), (79, 44286), (81, 44274), (94, 44196),

Gene: Bugatti\_84 Start: 47028, Stop: 46792, Start Num: 62

Candidate Starts for Bugatti\_84:

(Start: 57 @47049 has 4 MA's), (Start: 62 @47028 has 83 MA's), (75, 46959), (80, 46926), (94, 46848),

Gene: Buggy\_81 Start: 47094, Stop: 46774, Start Num: 22

Candidate Starts for Buggy\_81:

(Start: 22 @47094 has 37 MA's), (35, 47040), (46, 47019), (64, 47001), (75, 46941), (76, 46932), (77, 46926), (80, 46908), (94, 46827),

Gene: BuzzBuzz\_77 Start: 46300, Stop: 46070, Start Num: 62

Candidate Starts for BuzzBuzz\_77:

(49, 46342), (Start: 62 @46300 has 83 MA's), (Start: 66 @46279 has 2 MA's), (67, 46273), (79, 46207), (80, 46198),

Gene: Bxz2\_78 Start: 46307, Stop: 46077, Start Num: 62

Candidate Starts for Bxz2\_78:

(49, 46349), (Start: 62 @46307 has 83 MA's), (Start: 66 @46286 has 2 MA's), (67, 46280), (79, 46214), (80, 46205),

Gene: C3\_72 Start: 45517, Stop: 45221, Start Num: 32

Candidate Starts for C3\_72:

(Start: 32 @45517 has 29 MA's), (79, 45385), (94, 45295),

Gene: CRB1\_80 Start: 47036, Stop: 46719, Start Num: 32

Candidate Starts for CRB1\_80:

(Start: 32 @47036 has 29 MA's), (67, 46925), (68, 46910), (78, 46862), (79, 46859), (81, 46847), (94, 46769),

Gene: Caitlin\_85 Start: 46572, Stop: 46330, Start Num: 54

Candidate Starts for Caitlin\_85:

(Start: 54 @46572 has 9 MA's), (79, 46461), (80, 46452), (84, 46440),

Gene: Calvinny\_80 Start: 46083, Stop: 45853, Start Num: 62

Candidate Starts for Calvinny\_80:

(21, 46233), (49, 46125), (Start: 55 @46107 has 4 MA's), (Start: 62 @46083 has 83 MA's), (75, 46014), (79, 45990), (94, 45903),

Gene: Candra\_79 Start: 45172, Stop: 44951, Start Num: 61

Candidate Starts for Candra\_79:

(Start: 61 @45172 has 28 MA's), (64, 45160),

Gene: Centaur\_79 Start: 46321, Stop: 46001, Start Num: 22

Candidate Starts for Centaur\_79:

(Start: 22 @46321 has 37 MA's), (35, 46267), (67, 46210), (76, 46159), (77, 46153), (80, 46135), (91, 46093), (94, 46054),

Gene: Chadwick\_75 Start: 44643, Stop: 44401, Start Num: 48

Candidate Starts for Chadwick\_75:

(Start: 48 @44643 has 8 MA's), (63, 44610),

Gene: Changeling\_78 Start: 46920, Stop: 46642, Start Num: 32

Candidate Starts for Changeling\_78:

(Start: 32 @46920 has 29 MA's), (Start: 39 @46914 has 1 MA's), (67, 46857), (79, 46791), (88, 46752), (94, 46701), (99, 46653),

Gene: Chargerpower\_77 Start: 44887, Stop: 44654, Start Num: 38

Candidate Starts for Chargerpower\_77:

(20, 44971), (Start: 38 @44887 has 4 MA's), (67, 44854), (80, 44782), (94, 44704),

Gene: Chartreuse\_80 Start: 44483, Stop: 44262, Start Num: 61

Candidate Starts for Chartreuse\_80:

(Start: 61 @44483 has 28 MA's), (64, 44471),

Gene: ChipMunk\_80 Start: 47961, Stop: 47692, Start Num: 32

Candidate Starts for ChipMunk\_80:

(Start: 32 @47961 has 29 MA's), (34, 47955), (Start: 62 @47925 has 83 MA's), (64, 47916), (67, 47898), (76, 47847), (77, 47841), (80, 47823), (91, 47781), (94, 47742),

Gene: Clammy\_84 Start: 47028, Stop: 46792, Start Num: 62

Candidate Starts for Clammy\_84:

(Start: 57 @47049 has 4 MA's), (Start: 62 @47028 has 83 MA's), (75, 46959), (80, 46926), (94, 46848),

Gene: CloudWang3\_81 Start: 45345, Stop: 45124, Start Num: 61

Candidate Starts for CloudWang3\_81:

(Start: 61 @45345 has 28 MA's), (64, 45333), (96, 45129),

Gene: ClownCar\_80 Start: 46078, Stop: 45848, Start Num: 62

Candidate Starts for ClownCar\_80:

(21, 46228), (49, 46120), (Start: 55 @46102 has 4 MA's), (Start: 62 @46078 has 83 MA's), (75, 46009), (79, 45985), (94, 45898),

Gene: Colbster\_79 Start: 46275, Stop: 46045, Start Num: 62

Candidate Starts for Colbster\_79:

(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248), (79, 46182),

Gene: Colin\_79 Start: 47629, Stop: 47354, Start Num: 32

Candidate Starts for Colin\_79:

(Start: 32 @47629 has 29 MA's), (67, 47563), (68, 47548), (81, 47485), (94, 47407),

Gene: Conspiracy\_72 Start: 44599, Stop: 44354, Start Num: 47

Candidate Starts for Conspiracy\_72:

(Start: 47 @44599 has 31 MA's), (63, 44563), (73, 44512), (76, 44491), (84, 44455),

Gene: Coog\_68 Start: 44365, Stop: 44123, Start Num: 47

Candidate Starts for Coog\_68:

(Start: 47 @44365 has 31 MA's), (63, 44332), (64, 44329), (76, 44260), (84, 44224), (90, 44200),

Gene: Cookiedough\_81 Start: 45790, Stop: 45569, Start Num: 61

Candidate Starts for Cookiedough\_81:

(14, 45994), (27, 45904), (Start: 61 @45790 has 28 MA's), (64, 45778),

Gene: Croquant\_80 Start: 46272, Stop: 46042, Start Num: 62

Candidate Starts for Croquant\_80:

(49, 46314), (Start: 62 @46272 has 83 MA's), (64, 46263), (Start: 66 @46251 has 2 MA's), (67, 46245), (79, 46179),

Gene: Crucio\_79 Start: 46848, Stop: 46531, Start Num: 22

Candidate Starts for Crucio\_79:

(Start: 22 @46848 has 37 MA's), (67, 46737), (76, 46686), (77, 46680), (80, 46662), (91, 46620), (94, 46581),

Gene: Cuco\_70 Start: 44225, Stop: 43983, Start Num: 47

Candidate Starts for Cuco\_70:

(Start: 47 @44225 has 31 MA's), (63, 44192), (64, 44189), (76, 44120), (84, 44084), (90, 44060),

Gene: Cullens\_84 Start: 46274, Stop: 46044, Start Num: 62

Candidate Starts for Cullens\_84:

(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247), (79, 46181),

Gene: DBQu4n\_80 Start: 46541, Stop: 46269, Start Num: 32

Candidate Starts for DBQu4n\_80:

(Start: 32 @46541 has 29 MA's), (67, 46478), (79, 46412), (94, 46322),

Gene: DaHudson\_82 Start: 46264, Stop: 46034, Start Num: 62

Candidate Starts for DaHudson\_82:

(49, 46306), (Start: 62 @46264 has 83 MA's), (64, 46255), (Start: 66 @46243 has 2 MA's), (67, 46237), (79, 46171),

Gene: DaVinci\_79 Start: 44537, Stop: 44316, Start Num: 61

Candidate Starts for DaVinci\_79:

(Start: 61 @44537 has 28 MA's), (64, 44525),

Gene: Daishi\_82 Start: 45141, Stop: 44911, Start Num: 62

Candidate Starts for Daishi\_82:

(49, 45183), (Start: 62 @45141 has 83 MA's), (Start: 66 @45120 has 2 MA's), (67, 45114), (79, 45048), (80, 45039),

Gene: Dalmatian\_79 Start: 46667, Stop: 46365, Start Num: 43

Candidate Starts for Dalmatian\_79:

(Start: 43 @46667 has 7 MA's), (73, 46577), (94, 46454),

Gene: Danforth\_87 Start: 46987, Stop: 46715, Start Num: 45

Candidate Starts for Danforth\_87:

(28, 47047), (Start: 45 @46987 has 3 MA's), (Start: 62 @46939 has 83 MA's), (79, 46846), (80, 46837),

Gene: DarthPhader\_87 Start: 50218, Stop: 50003, Start Num: 62

Candidate Starts for DarthPhader\_87:

(50, 50251), (Start: 62 @50218 has 83 MA's), (67, 50191),

Gene: DeerParkTS\_75 Start: 45386, Stop: 45114, Start Num: 32

Candidate Starts for DeerParkTS\_75:

(Start: 32 @45386 has 29 MA's), (Start: 39 @45380 has 1 MA's), (67, 45323), (79, 45257), (94, 45167),

Gene: Deloris\_79 Start: 46271, Stop: 45996, Start Num: 23

Candidate Starts for Deloris\_79:

(Start: 22 @46277 has 37 MA's), (Start: 23 @46271 has 2 MA's), (64, 46223), (67, 46205), (77, 46148), (80, 46130), (91, 46088), (94, 46049),

Gene: DelvinSonDorr\_77 Start: 45195, Stop: 44974, Start Num: 61

Candidate Starts for DelvinSonDorr\_77:

(14, 45399), (27, 45309), (Start: 61 @45195 has 28 MA's), (64, 45183),

Gene: Diane\_73 Start: 46788, Stop: 46444, Start Num: 38

Candidate Starts for Diane\_73:

(Start: 38 @46788 has 4 MA's), (53, 46740), (58, 46728), (80, 46614), (82, 46608),

Gene: Dieselweasel\_84 Start: 46273, Stop: 46043, Start Num: 62

Candidate Starts for Dieselweasel\_84:

(49, 46315), (Start: 62 @46273 has 83 MA's), (64, 46264), (Start: 66 @46252 has 2 MA's), (67, 46246), (79, 46180),

Gene: Dignity\_81 Start: 47132, Stop: 46812, Start Num: 22

Candidate Starts for Dignity\_81:

(Start: 22 @47132 has 37 MA's), (35, 47078), (46, 47057), (64, 47039), (75, 46979), (76, 46970), (77, 46964), (80, 46946), (94, 46865),

Gene: Discoknowium\_69 Start: 44116, Stop: 43871, Start Num: 47

Candidate Starts for Discoknowium\_69:

(Start: 47 @44116 has 31 MA's), (63, 44080), (73, 44029), (76, 44008), (84, 43972),

Gene: Dixon\_85 Start: 46439, Stop: 46197, Start Num: 54

Candidate Starts for Dixon\_85:

(Start: 54 @46439 has 9 MA's), (79, 46328), (80, 46319), (84, 46307),

Gene: Dorothea\_81 Start: 45783, Stop: 45562, Start Num: 61

Candidate Starts for Dorothea\_81:

(Start: 61 @45783 has 28 MA's), (64, 45771),

Gene: Drake55\_80 Start: 46578, Stop: 46258, Start Num: 22

Candidate Starts for Drake55\_80:

(Start: 22 @46578 has 37 MA's), (64, 46485), (67, 46467), (77, 46410), (80, 46392), (94, 46311),

Gene: Dublin\_71 Start: 44497, Stop: 44255, Start Num: 47

Candidate Starts for Dublin\_71:

(Start: 47 @44497 has 31 MA's), (63, 44464), (64, 44461), (73, 44413), (76, 44392), (84, 44356), (90, 44332),

Gene: DudeLittle\_77 Start: 46433, Stop: 46131, Start Num: 43

Candidate Starts for DudeLittle\_77:

(Start: 43 @46433 has 7 MA's), (73, 46343), (94, 46220),

Gene: EZMoney23\_75 Start: 46037, Stop: 45765, Start Num: 32

Candidate Starts for EZMoney23\_75:

(5, 46337), (Start: 32 @46037 has 29 MA's), (Start: 39 @46031 has 1 MA's), (67, 45974), (79, 45908), (94, 45818),

Gene: EagleEye\_82 Start: 46572, Stop: 46357, Start Num: 61

Candidate Starts for EagleEye\_82:

(26, 46689), (31, 46659), (58, 46584), (Start: 61 @46572 has 28 MA's), (67, 46542), (73, 46512), (74, 46503), (81, 46464), (94, 46389),

Gene: Ebony\_80 Start: 45555, Stop: 45280, Start Num: 33

Candidate Starts for Ebony\_80:

(9, 45732), (Start: 33 @45555 has 23 MA's), (67, 45486), (70, 45465), (75, 45444), (79, 45420), (81, 45408), (94, 45330),

Gene: EITiger69\_77 Start: 45591, Stop: 45328, Start Num: 47

Candidate Starts for EITiger69\_77:

(Start: 47 @45591 has 31 MA's), (Start: 48 @45588 has 8 MA's), (51, 45576), (Start: 54 @45570 has 9 MA's), (Start: 62 @45543 has 83 MA's), (63, 45537), (84, 45429),

Gene: Elle\_82 Start: 45871, Stop: 45602, Start Num: 32

Candidate Starts for Elle\_82:

(Start: 32 @45871 has 29 MA's), (75, 45769), (81, 45733), (85, 45718), (88, 45703), (94, 45652),

Gene: EpicPhail\_84 Start: 46275, Stop: 46045, Start Num: 62

Candidate Starts for EpicPhail\_84:

(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248), (79, 46182),

Gene: Equemioh13\_79 Start: 46550, Stop: 46230, Start Num: 22

Candidate Starts for Equemioh13\_79:

(Start: 22 @46550 has 37 MA's), (35, 46496), (67, 46439), (76, 46388), (77, 46382), (80, 46364), (91, 46322), (94, 46283),

Gene: EricB\_80 Start: 45129, Stop: 44908, Start Num: 61

Candidate Starts for EricB\_80:

(Start: 61 @45129 has 28 MA's), (64, 45117),

Gene: Et2Brutus\_79 Start: 45518, Stop: 45243, Start Num: 33  
Candidate Starts for Et2Brutus\_79:  
(7, 45758), (9, 45695), (Start: 33 @45518 has 23 MA's), (67, 45449), (70, 45428), (75, 45407), (79, 45383), (81, 45371), (94, 45293),

Gene: EvilGenius\_79 Start: 47962, Stop: 47693, Start Num: 32  
Candidate Starts for EvilGenius\_79:  
(Start: 32 @47962 has 29 MA's), (34, 47956), (Start: 62 @47926 has 83 MA's), (64, 47917), (67, 47899), (76, 47848), (77, 47842), (80, 47824), (91, 47782), (94, 47743),

Gene: Expelliarmus\_83 Start: 46653, Stop: 46411, Start Num: 54  
Candidate Starts for Expelliarmus\_83:  
(Start: 54 @46653 has 9 MA's), (79, 46542), (80, 46533), (84, 46521),

Gene: Fameo\_77 Start: 46475, Stop: 46173, Start Num: 43  
Candidate Starts for Fameo\_77:  
(Start: 43 @46475 has 7 MA's), (73, 46385), (94, 46262),

Gene: Farber\_83 Start: 46261, Stop: 46031, Start Num: 62  
Candidate Starts for Farber\_83:  
(49, 46303), (Start: 62 @46261 has 83 MA's), (64, 46252), (Start: 66 @46240 has 2 MA's), (67, 46234), (79, 46168),

Gene: FatCactus\_73 Start: 44985, Stop: 44743, Start Num: 60  
Candidate Starts for FatCactus\_73:  
(Start: 60 @44985 has 1 MA's), (65, 44970), (67, 44955), (87, 44859), (92, 44838), (94, 44802), (95, 44772),

Gene: Fernando\_84 Start: 46274, Stop: 46044, Start Num: 62  
Candidate Starts for Fernando\_84:  
(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247), (79, 46181),

Gene: Fibonacci\_79 Start: 45524, Stop: 45249, Start Num: 33  
Candidate Starts for Fibonacci\_79:  
(7, 45764), (9, 45701), (Start: 33 @45524 has 23 MA's), (67, 45455), (70, 45434), (75, 45413), (79, 45389), (81, 45377), (94, 45299),

Gene: FiringLine\_79 Start: 46830, Stop: 46513, Start Num: 22  
Candidate Starts for FiringLine\_79:  
(Start: 22 @46830 has 37 MA's), (67, 46719), (76, 46668), (77, 46662), (80, 46644), (91, 46602), (94, 46563),

Gene: First\_0080 Start: 46674, Stop: 46357, Start Num: 22  
Candidate Starts for First\_0080:  
(Start: 22 @46674 has 37 MA's), (67, 46563), (76, 46512), (77, 46506), (80, 46488), (91, 46446), (94, 46407),

Gene: Flare16\_79 Start: 46365, Stop: 46045, Start Num: 22  
Candidate Starts for Flare16\_79:  
(Start: 22 @46365 has 37 MA's), (35, 46311), (67, 46254), (76, 46203), (77, 46197), (80, 46179), (91, 46137), (94, 46098),

Gene: Flaverint\_81 Start: 45982, Stop: 45707, Start Num: 33  
Candidate Starts for Flaverint\_81:  
(7, 46222), (9, 46159), (Start: 33 @45982 has 23 MA's), (67, 45913), (70, 45892), (75, 45871), (79, 45847), (81, 45835), (94, 45757),

Gene: Florence1\_68 Start: 44057, Stop: 43812, Start Num: 47  
Candidate Starts for Florence1\_68:  
(Start: 47 @44057 has 31 MA's), (63, 44021), (73, 43970), (76, 43949), (84, 43913),

Gene: Florence4\_69 Start: 44057, Stop: 43812, Start Num: 47  
Candidate Starts for Florence4\_69:  
(Start: 47 @44057 has 31 MA's), (63, 44021), (73, 43970), (76, 43949), (84, 43913),

Gene: ForGetIt\_72 Start: 44624, Stop: 44379, Start Num: 47  
Candidate Starts for ForGetIt\_72:  
(Start: 47 @44624 has 31 MA's), (63, 44588), (73, 44537), (76, 44516), (84, 44480),

Gene: ForesterFrank\_74 Start: 46584, Stop: 46300, Start Num: 30  
Candidate Starts for ForesterFrank\_74:  
(8, 46779), (11, 46731), (29, 46593), (Start: 30 @46584 has 2 MA's), (Start: 32 @46581 has 29 MA's), (67, 46515), (79, 46449), (88, 46410), (94, 46359),

Gene: Fred313\_80 Start: 46658, Stop: 46422, Start Num: 62  
Candidate Starts for Fred313\_80:  
(Start: 57 @46679 has 4 MA's), (Start: 62 @46658 has 83 MA's), (75, 46589), (80, 46556),

Gene: Gemma\_80 Start: 46081, Stop: 45851, Start Num: 62  
Candidate Starts for Gemma\_80:  
(21, 46231), (49, 46123), (Start: 55 @46105 has 4 MA's), (Start: 62 @46081 has 83 MA's), (75, 46012), (79, 45988), (94, 45901),

Gene: George\_66 Start: 44285, Stop: 44040, Start Num: 47  
Candidate Starts for George\_66:  
(Start: 47 @44285 has 31 MA's), (Start: 62 @44255 has 83 MA's), (73, 44198), (84, 44141),

Gene: Georgie2\_81 Start: 47034, Stop: 46717, Start Num: 22  
Candidate Starts for Georgie2\_81:  
(Start: 22 @47034 has 37 MA's), (67, 46923), (76, 46872), (77, 46866), (80, 46848), (91, 46806), (94, 46767),

Gene: Ghouboy\_71 Start: 44592, Stop: 44350, Start Num: 47  
Candidate Starts for Ghouboy\_71:  
(Start: 47 @44592 has 31 MA's), (63, 44559), (64, 44556), (Start: 66 @44544 has 2 MA's), (73, 44508), (76, 44487), (84, 44451), (90, 44427),

Gene: Gilberta\_77 Start: 44858, Stop: 44583, Start Num: 33  
Candidate Starts for Gilberta\_77:  
(7, 45098), (9, 45035), (Start: 33 @44858 has 23 MA's), (67, 44789), (70, 44768), (75, 44747), (79, 44723), (81, 44711), (94, 44633),

Gene: GingkoMaracino\_83 Start: 46157, Stop: 45927, Start Num: 62  
Candidate Starts for GingkoMaracino\_83:

(49, 46199), (Start: 62 @46157 has 83 MA's), (64, 46148), (Start: 66 @46136 has 2 MA's), (67, 46130), (79, 46064),

Gene: Giroux\_86 Start: 47027, Stop: 46791, Start Num: 62

Candidate Starts for Giroux\_86:

(Start: 57 @47048 has 4 MA's), (Start: 62 @47027 has 83 MA's), (75, 46958), (80, 46925), (94, 46847),

Gene: Gladiator\_77 Start: 45001, Stop: 44780, Start Num: 61

Candidate Starts for Gladiator\_77:

(Start: 61 @45001 has 28 MA's), (64, 44989), (96, 44785),

Gene: Gratitude\_77 Start: 46550, Stop: 46230, Start Num: 22

Candidate Starts for Gratitude\_77:

(Start: 22 @46550 has 37 MA's), (35, 46496), (67, 46439), (76, 46388), (77, 46382), (80, 46364), (91, 46322), (94, 46283),

Gene: GreenWeasel\_73 Start: 46118, Stop: 45768, Start Num: 55

Candidate Starts for GreenWeasel\_73:

(25, 46223), (Start: 55 @46118 has 4 MA's), (58, 46106), (67, 46064), (68, 46049), (83, 45980), (89, 45956),

Gene: Grif\_81 Start: 46348, Stop: 46118, Start Num: 62

Candidate Starts for Grif\_81:

(49, 46390), (Start: 62 @46348 has 83 MA's), (64, 46339), (Start: 66 @46327 has 2 MA's), (67, 46321), (79, 46255),

Gene: Groundhog\_84 Start: 46709, Stop: 46467, Start Num: 54

Candidate Starts for Groundhog\_84:

(Start: 54 @46709 has 9 MA's), (79, 46598), (80, 46589), (84, 46577),

Gene: Groupthink\_83 Start: 46082, Stop: 45852, Start Num: 62

Candidate Starts for Groupthink\_83:

(21, 46232), (49, 46124), (Start: 55 @46106 has 4 MA's), (Start: 62 @46082 has 83 MA's), (75, 46013), (79, 45989), (94, 45902),

Gene: Grub\_81 Start: 46264, Stop: 46034, Start Num: 62

Candidate Starts for Grub\_81:

(49, 46306), (Start: 62 @46264 has 83 MA's), (64, 46255), (Start: 66 @46243 has 2 MA's), (67, 46237), (79, 46171),

Gene: Grum1\_83 Start: 46274, Stop: 46044, Start Num: 62

Candidate Starts for Grum1\_83:

(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247), (79, 46181),

Gene: Gruunaga\_80 Start: 44956, Stop: 44735, Start Num: 61

Candidate Starts for Gruunaga\_80:

(Start: 61 @44956 has 28 MA's), (64, 44944), (96, 44740),

Gene: GtownJaz\_83 Start: 46272, Stop: 46042, Start Num: 62

Candidate Starts for GtownJaz\_83:

(49, 46314), (Start: 62 @46272 has 83 MA's), (64, 46263), (Start: 66 @46251 has 2 MA's), (67, 46245), (79, 46179),

Gene: Gwennie\_78 Start: 46275, Stop: 46045, Start Num: 62

Candidate Starts for Gwennie\_78:

(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248), (79, 46182),

Gene: Hammer\_81 Start: 44663, Stop: 44442, Start Num: 61

Candidate Starts for Hammer\_81:

(Start: 61 @44663 has 28 MA's), (64, 44651), (96, 44447),

Gene: HarryHoudini\_79 Start: 46575, Stop: 46255, Start Num: 22

Candidate Starts for HarryHoudini\_79:

(Start: 22 @46575 has 37 MA's), (64, 46482), (67, 46464), (77, 46407), (80, 46389), (94, 46308),

Gene: HashRod\_84 Start: 46301, Stop: 46071, Start Num: 62

Candidate Starts for HashRod\_84:

(49, 46343), (Start: 62 @46301 has 83 MA's), (64, 46292), (Start: 66 @46280 has 2 MA's), (67, 46274), (79, 46208),

Gene: HaveUMetTed\_83 Start: 46070, Stop: 45840, Start Num: 62

Candidate Starts for HaveUMetTed\_83:

(21, 46220), (49, 46112), (Start: 55 @46094 has 4 MA's), (Start: 62 @46070 has 83 MA's), (75, 46001), (79, 45977), (94, 45890),

Gene: Heathen\_82 Start: 46746, Stop: 46510, Start Num: 62

Candidate Starts for Heathen\_82:

(Start: 57 @46767 has 4 MA's), (Start: 62 @46746 has 83 MA's), (75, 46677), (80, 46644),

Gene: Heffalump\_76 Start: 46943, Stop: 46641, Start Num: 43

Candidate Starts for Heffalump\_76:

(Start: 43 @46943 has 7 MA's), (73, 46853), (94, 46730),

Gene: HelDan\_83 Start: 46990, Stop: 46733, Start Num: 57

Candidate Starts for HelDan\_83:

(Start: 57 @46990 has 4 MA's), (Start: 62 @46969 has 83 MA's), (75, 46900), (80, 46867),

Gene: Heliosoles\_80 Start: 46086, Stop: 45856, Start Num: 62

Candidate Starts for Heliosoles\_80:

(21, 46236), (49, 46128), (Start: 55 @46110 has 4 MA's), (Start: 62 @46086 has 83 MA's), (75, 46017), (79, 45993), (94, 45906),

Gene: Hercules11\_83 Start: 46283, Stop: 46053, Start Num: 62

Candidate Starts for Hercules11\_83:

(49, 46325), (Start: 62 @46283 has 83 MA's), (64, 46274), (Start: 66 @46262 has 2 MA's), (67, 46256), (79, 46190),

Gene: Hexamo\_80 Start: 44831, Stop: 44610, Start Num: 61

Candidate Starts for Hexamo\_80:

(Start: 61 @44831 has 28 MA's), (64, 44819), (96, 44615),

Gene: HippoHollow\_76 Start: 47561, Stop: 47280, Start Num: 32

Candidate Starts for HippoHollow\_76:

(Start: 32 @47561 has 29 MA's), (34, 47555), (67, 47489), (76, 47438), (77, 47432), (80, 47414), (91, 47372), (94, 47333),

Gene: Hoot\_76 Start: 42987, Stop: 42766, Start Num: 61

Candidate Starts for Hoot\_76:

(14, 43191), (27, 43101), (Start: 61 @42987 has 28 MA's), (64, 42975),

Gene: HuhtaEnerson15\_69 Start: 44200, Stop: 43955, Start Num: 47

Candidate Starts for HuhtaEnerson15\_69:

(Start: 47 @44200 has 31 MA's), (Start: 62 @44170 has 83 MA's), (84, 44056),

Gene: Hutc2\_76 Start: 44408, Stop: 44133, Start Num: 33

Candidate Starts for Hutc2\_76:

(7, 44648), (9, 44585), (Start: 33 @44408 has 23 MA's), (67, 44339), (70, 44318), (75, 44297), (79, 44273), (81, 44261), (94, 44183),

Gene: Idleandcovert\_83 Start: 47049, Stop: 46792, Start Num: 57

Candidate Starts for Idleandcovert\_83:

(Start: 57 @47049 has 4 MA's), (Start: 62 @47028 has 83 MA's), (75, 46959), (80, 46926), (94, 46848),

Gene: Insomnia\_79 Start: 45699, Stop: 45424, Start Num: 33

Candidate Starts for Insomnia\_79:

(7, 45939), (9, 45876), (Start: 33 @45699 has 23 MA's), (67, 45630), (70, 45609), (75, 45588), (79, 45564), (81, 45552), (94, 45474),

Gene: Isiphiwo\_78 Start: 45157, Stop: 44936, Start Num: 61

Candidate Starts for Isiphiwo\_78:

(14, 45361), (27, 45271), (Start: 61 @45157 has 28 MA's), (64, 45145),

Gene: Issmi\_73 Start: 46671, Stop: 46375, Start Num: 56

Candidate Starts for Issmi\_73:

(Start: 56 @46671 has 2 MA's), (67, 46623), (68, 46608), (72, 46596), (99, 46425),

Gene: Iwokeuplikedis\_81 Start: 47056, Stop: 46784, Start Num: 32

Candidate Starts for Iwokeuplikedis\_81:

(Start: 32 @47056 has 29 MA's), (34, 47050), (67, 46993), (77, 46936), (80, 46918), (91, 46876), (94, 46837),

Gene: JHC117\_78 Start: 46269, Stop: 46039, Start Num: 62

Candidate Starts for JHC117\_78:

(49, 46311), (Start: 62 @46269 has 83 MA's), (64, 46260), (Start: 66 @46248 has 2 MA's), (67, 46242), (79, 46176),

Gene: Jabiru\_73 Start: 44754, Stop: 44512, Start Num: 48

Candidate Starts for Jabiru\_73:

(Start: 48 @44754 has 8 MA's),

Gene: Jabith\_79 Start: 45716, Stop: 45441, Start Num: 33

Candidate Starts for Jabith\_79:

(7, 45956), (9, 45893), (Start: 33 @45716 has 23 MA's), (67, 45647), (70, 45626), (75, 45605), (79, 45581), (81, 45569), (94, 45491),

Gene: JenCasNa\_84 Start: 46274, Stop: 46044, Start Num: 62

Candidate Starts for JenCasNa\_84:

(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247), (79, 46181),

Gene: JeppNRM\_83 Start: 46084, Stop: 45854, Start Num: 62

Candidate Starts for JeppNRM\_83:

(21, 46234), (49, 46126), (Start: 55 @46108 has 4 MA's), (Start: 62 @46084 has 83 MA's), (64, 46075), (75, 46015), (79, 45991), (94, 45904),

Gene: Jerm\_81 Start: 47115, Stop: 46795, Start Num: 22

Candidate Starts for Jerm\_81:

(Start: 22 @47115 has 37 MA's), (35, 47061), (46, 47040), (64, 47022), (75, 46962), (76, 46953), (77, 46947), (80, 46929), (94, 46848),

Gene: Jobu08\_79 Start: 46098, Stop: 45868, Start Num: 62

Candidate Starts for Jobu08\_79:

(12, 46320), (49, 46140), (Start: 62 @46098 has 83 MA's), (64, 46089), (Start: 66 @46077 has 2 MA's), (67, 46071), (79, 46005), (94, 45918),

Gene: Jordennis\_79 Start: 45369, Stop: 45148, Start Num: 61

Candidate Starts for Jordennis\_79:

(Start: 61 @45369 has 28 MA's), (64, 45357),

Gene: Joselito\_79 Start: 45736, Stop: 45461, Start Num: 33

Candidate Starts for Joselito\_79:

(7, 45976), (9, 45913), (Start: 33 @45736 has 23 MA's), (67, 45667), (70, 45646), (75, 45625), (79, 45601), (81, 45589), (94, 45511),

Gene: JoshKayV\_81 Start: 47259, Stop: 46987, Start Num: 22

Candidate Starts for JoshKayV\_81:

(Start: 22 @47259 has 37 MA's), (35, 47253), (64, 47214), (75, 47154), (76, 47145), (77, 47139), (80, 47121), (94, 47040),

Gene: Jovo\_71 Start: 44880, Stop: 44635, Start Num: 47

Candidate Starts for Jovo\_71:

(Start: 47 @44880 has 31 MA's), (63, 44844), (73, 44793), (76, 44772), (84, 44736),

Gene: KADY\_80 Start: 46301, Stop: 46071, Start Num: 62

Candidate Starts for KADY\_80:

(49, 46343), (Start: 62 @46301 has 83 MA's), (Start: 66 @46280 has 2 MA's), (67, 46274), (79, 46208), (80, 46199),

Gene: Kachowdy\_81 Start: 46998, Stop: 46762, Start Num: 62

Candidate Starts for Kachowdy\_81:

(Start: 57 @47019 has 4 MA's), (Start: 62 @46998 has 83 MA's), (75, 46929), (80, 46896),

Gene: Kalb97\_83 Start: 45452, Stop: 45192, Start Num: 62

Candidate Starts for Kalb97\_83:

(21, 45602), (49, 45494), (Start: 55 @45476 has 4 MA's), (Start: 62 @45452 has 83 MA's), (64, 45443), (75, 45383), (79, 45359), (94, 45272), (101, 45224),

Gene: Kalnoky\_83 Start: 46079, Stop: 45849, Start Num: 62

Candidate Starts for Kalnoky\_83:

(21, 46229), (49, 46121), (Start: 55 @46103 has 4 MA's), (Start: 62 @46079 has 83 MA's), (75, 46010), (79, 45986), (94, 45899),

Gene: Kazan\_82 Start: 45142, Stop: 44921, Start Num: 61  
Candidate Starts for Kazan\_82:  
(Start: 61 @45142 has 28 MA's), (64, 45130),

Gene: Kerberos\_80 Start: 46561, Stop: 46289, Start Num: 32  
Candidate Starts for Kerberos\_80:  
(Start: 32 @46561 has 29 MA's), (67, 46498), (79, 46432), (94, 46342),

Gene: Kimba\_78 Start: 45236, Stop: 44961, Start Num: 33  
Candidate Starts for Kimba\_78:  
(9, 45413), (Start: 33 @45236 has 23 MA's), (67, 45167), (70, 45146), (75, 45125), (79, 45101), (81, 45089), (94, 45011),

Gene: KingCyrus\_78 Start: 47984, Stop: 47667, Start Num: 22  
Candidate Starts for KingCyrus\_78:  
(Start: 22 @47984 has 37 MA's), (67, 47873), (76, 47822), (77, 47816), (80, 47798), (91, 47756), (94, 47717),

Gene: Kinmap\_83 Start: 45453, Stop: 45217, Start Num: 38  
Candidate Starts for Kinmap\_83:  
(Start: 38 @45453 has 4 MA's), (67, 45420), (94, 45267),

Gene: Kipper29\_81 Start: 45155, Stop: 44934, Start Num: 61  
Candidate Starts for Kipper29\_81:  
(Start: 61 @45155 has 28 MA's), (64, 45143),

Gene: LBerry\_84 Start: 46275, Stop: 46045, Start Num: 62  
Candidate Starts for LBerry\_84:  
(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248), (79, 46182),

Gene: LadyBird\_83 Start: 47185, Stop: 46904, Start Num: 22  
Candidate Starts for LadyBird\_83:  
(Start: 22 @47185 has 37 MA's), (Start: 23 @47179 has 2 MA's), (64, 47131), (67, 47113), (77, 47056), (80, 47038), (91, 46996), (94, 46957),

Gene: Larenn\_77 Start: 46535, Stop: 46206, Start Num: 22  
Candidate Starts for Larenn\_77:  
(Start: 22 @46535 has 37 MA's), (27, 46502), (35, 46472), (64, 46433), (67, 46415), (76, 46364), (77, 46358), (80, 46340), (91, 46298), (94, 46259),

Gene: LarryKay\_83 Start: 46305, Stop: 46075, Start Num: 62  
Candidate Starts for LarryKay\_83:  
(49, 46347), (Start: 62 @46305 has 83 MA's), (64, 46296), (Start: 66 @46284 has 2 MA's), (67, 46278), (79, 46212),

Gene: Lev2\_72 Start: 44512, Stop: 44267, Start Num: 47  
Candidate Starts for Lev2\_72:  
(Start: 47 @44512 has 31 MA's), (63, 44476), (73, 44425), (76, 44404), (84, 44368),

Gene: Leviathan\_81 Start: 47181, Stop: 46861, Start Num: 22

Candidate Starts for Leviathan\_81:

(Start: 22 @47181 has 37 MA's), (35, 47127), (46, 47106), (64, 47088), (75, 47028), (76, 47019), (77, 47013), (80, 46995), (94, 46914),

Gene: LilTurb\_80 Start: 46995, Stop: 46675, Start Num: 22

Candidate Starts for LilTurb\_80:

(Start: 22 @46995 has 37 MA's), (35, 46941), (46, 46920), (64, 46902), (75, 46842), (76, 46833), (77, 46827), (80, 46809), (94, 46728),

Gene: Lilit\_81 Start: 46264, Stop: 46034, Start Num: 62

Candidate Starts for Lilit\_81:

(49, 46306), (Start: 62 @46264 has 83 MA's), (64, 46255), (Start: 66 @46243 has 2 MA's), (67, 46237), (79, 46171),

Gene: LionsBait\_78 Start: 47560, Stop: 47279, Start Num: 32

Candidate Starts for LionsBait\_78:

(Start: 32 @47560 has 29 MA's), (34, 47554), (67, 47488), (76, 47437), (77, 47431), (80, 47413), (91, 47371), (94, 47332),

Gene: LittleCherry\_70 Start: 44070, Stop: 43825, Start Num: 47

Candidate Starts for LittleCherry\_70:

(Start: 47 @44070 has 31 MA's), (Start: 62 @44040 has 83 MA's), (73, 43983), (84, 43926),

Gene: LogiBear\_77 Start: 44652, Stop: 44383, Start Num: 36

Candidate Starts for LogiBear\_77:

(36, 44652), (80, 44517), (93, 44463), (94, 44433),

Gene: Lokk\_74 Start: 45070, Stop: 44786, Start Num: 30

Candidate Starts for Lokk\_74:

(8, 45265), (11, 45217), (29, 45079), (Start: 30 @45070 has 2 MA's), (Start: 32 @45067 has 29 MA's), (67, 45001), (82, 44920), (88, 44896), (94, 44845), (99, 44797),

Gene: Loser\_83 Start: 47509, Stop: 47237, Start Num: 32

Candidate Starts for Loser\_83:

(Start: 32 @47509 has 29 MA's), (Start: 39 @47503 has 1 MA's), (67, 47446), (79, 47380), (86, 47353), (94, 47290),

Gene: Louie6\_82 Start: 46302, Stop: 46072, Start Num: 62

Candidate Starts for Louie6\_82:

(49, 46344), (Start: 62 @46302 has 83 MA's), (Start: 66 @46281 has 2 MA's), (67, 46275), (79, 46209), (80, 46200),

Gene: Lowa\_80 Start: 46263, Stop: 46033, Start Num: 62

Candidate Starts for Lowa\_80:

(49, 46305), (Start: 62 @46263 has 83 MA's), (64, 46254), (Start: 66 @46242 has 2 MA's), (67, 46236), (79, 46170),

Gene: Lucivia\_81 Start: 46015, Stop: 45740, Start Num: 33

Candidate Starts for Lucivia\_81:

(7, 46255), (9, 46192), (Start: 33 @46015 has 23 MA's), (67, 45946), (70, 45925), (75, 45904), (79, 45880), (81, 45868), (94, 45790),

Gene: Lucyedi\_81 Start: 46771, Stop: 46526, Start Num: 61  
Candidate Starts for Lucyedi\_81:  
(26, 46888), (31, 46858), (58, 46783), (Start: 61 @46771 has 28 MA's), (73, 46711),

Gene: LugYA\_86 Start: 46275, Stop: 46045, Start Num: 62  
Candidate Starts for LugYA\_86:  
(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248),  
(79, 46182),

Gene: MaCh\_80 Start: 45979, Stop: 45704, Start Num: 33  
Candidate Starts for MaCh\_80:  
(7, 46219), (9, 46156), (Start: 33 @45979 has 23 MA's), (67, 45910), (70, 45889), (75, 45868), (79,  
45844), (81, 45832), (94, 45754),

Gene: Mabel\_80 Start: 45980, Stop: 45705, Start Num: 33  
Candidate Starts for Mabel\_80:  
(7, 46220), (9, 46157), (Start: 33 @45980 has 23 MA's), (67, 45911), (70, 45890), (75, 45869), (79,  
45845), (81, 45833), (94, 45755),

Gene: MadMarie\_81 Start: 46272, Stop: 46042, Start Num: 62  
Candidate Starts for MadMarie\_81:  
(49, 46314), (Start: 62 @46272 has 83 MA's), (64, 46263), (Start: 66 @46251 has 2 MA's), (67, 46245),  
(79, 46179),

Gene: Mainiac\_82 Start: 46264, Stop: 46034, Start Num: 62  
Candidate Starts for Mainiac\_82:  
(49, 46306), (Start: 62 @46264 has 83 MA's), (64, 46255), (Start: 66 @46243 has 2 MA's), (67, 46237),  
(79, 46171),

Gene: Malec\_78 Start: 47105, Stop: 46776, Start Num: 22  
Candidate Starts for Malec\_78:  
(Start: 22 @47105 has 37 MA's), (27, 47072), (35, 47042), (64, 47003), (67, 46985), (76, 46934), (77,  
46928), (80, 46910), (91, 46868), (94, 46829),

Gene: Malinsilva\_86 Start: 46263, Stop: 46033, Start Num: 62  
Candidate Starts for Malinsilva\_86:  
(49, 46305), (Start: 62 @46263 has 83 MA's), (64, 46254), (Start: 66 @46242 has 2 MA's), (67, 46236),  
(79, 46170),

Gene: Manu\_82 Start: 46086, Stop: 45856, Start Num: 62  
Candidate Starts for Manu\_82:  
(21, 46236), (49, 46128), (Start: 55 @46110 has 4 MA's), (Start: 62 @46086 has 83 MA's), (75, 46017),  
(79, 45993), (94, 45906),

Gene: MarQuardt\_83 Start: 46273, Stop: 46043, Start Num: 62  
Candidate Starts for MarQuardt\_83:  
(49, 46315), (Start: 62 @46273 has 83 MA's), (64, 46264), (Start: 66 @46252 has 2 MA's), (67, 46246),  
(79, 46180),

Gene: Marie\_81 Start: 46274, Stop: 46044, Start Num: 62  
Candidate Starts for Marie\_81:  
(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247),  
(79, 46181),

Gene: Marius\_83 Start: 46079, Stop: 45849, Start Num: 62

Candidate Starts for Marius\_83:

(21, 46229), (49, 46121), (Start: 55 @46103 has 4 MA's), (Start: 62 @46079 has 83 MA's), (75, 46010), (79, 45986), (94, 45899),

Gene: MarysWell\_71 Start: 44740, Stop: 44498, Start Num: 47

Candidate Starts for MarysWell\_71:

(Start: 47 @44740 has 31 MA's), (63, 44707), (64, 44704), (73, 44656), (76, 44635), (84, 44599), (90, 44575),

Gene: McFly\_81 Start: 45491, Stop: 45270, Start Num: 61

Candidate Starts for McFly\_81:

(Start: 61 @45491 has 28 MA's), (64, 45479),

Gene: Methuselah\_76 Start: 46295, Stop: 46065, Start Num: 62

Candidate Starts for Methuselah\_76:

(49, 46337), (Start: 62 @46295 has 83 MA's), (64, 46286), (Start: 66 @46274 has 2 MA's), (67, 46268), (79, 46202),

Gene: Micasa\_71 Start: 44462, Stop: 44220, Start Num: 47

Candidate Starts for Micasa\_71:

(Start: 47 @44462 has 31 MA's), (63, 44429), (64, 44426), (73, 44378), (76, 44357), (84, 44321), (90, 44297),

Gene: Microwolf\_79 Start: 46287, Stop: 46057, Start Num: 62

Candidate Starts for Microwolf\_79:

(49, 46329), (Start: 62 @46287 has 83 MA's), (64, 46278), (Start: 66 @46266 has 2 MA's), (67, 46260), (79, 46194),

Gene: MiculUcigas\_79 Start: 46268, Stop: 45948, Start Num: 22

Candidate Starts for MiculUcigas\_79:

(Start: 22 @46268 has 37 MA's), (35, 46214), (67, 46157), (76, 46106), (77, 46100), (80, 46082), (91, 46040), (94, 46001),

Gene: Midas2\_68 Start: 44365, Stop: 44123, Start Num: 47

Candidate Starts for Midas2\_68:

(Start: 47 @44365 has 31 MA's), (63, 44332), (64, 44329), (76, 44260), (84, 44224), (90, 44200),

Gene: Miko\_74 Start: 45841, Stop: 45563, Start Num: 32

Candidate Starts for Miko\_74:

(6, 46138), (Start: 32 @45841 has 29 MA's), (Start: 39 @45835 has 1 MA's), (67, 45778), (82, 45697), (88, 45673), (94, 45622), (99, 45574),

Gene: Milcery\_71 Start: 44253, Stop: 44008, Start Num: 47

Candidate Starts for Milcery\_71:

(Start: 47 @44253 has 31 MA's), (Start: 62 @44223 has 83 MA's), (73, 44166), (84, 44109),

Gene: MissWhite\_74 Start: 43643, Stop: 43320, Start Num: 32

Candidate Starts for MissWhite\_74:

(15, 43754), (16, 43748), (Start: 32 @43643 has 29 MA's), (37, 43637), (67, 43577), (70, 43556), (79, 43511), (98, 43373),

Gene: MoneyMay\_83 Start: 46274, Stop: 46044, Start Num: 62  
Candidate Starts for MoneyMay\_83:  
(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247),  
(79, 46181),

Gene: Montavir\_78 Start: 46271, Stop: 46041, Start Num: 62  
Candidate Starts for Montavir\_78:  
(49, 46313), (Start: 62 @46271 has 83 MA's), (64, 46262), (Start: 66 @46250 has 2 MA's), (67, 46244),  
(79, 46178),

Gene: MuchMore\_86 Start: 46260, Stop: 46030, Start Num: 62  
Candidate Starts for MuchMore\_86:  
(49, 46302), (Start: 62 @46260 has 83 MA's), (64, 46251), (Start: 66 @46239 has 2 MA's), (67, 46233),  
(79, 46167),

Gene: Mulciber\_78 Start: 45521, Stop: 45246, Start Num: 33  
Candidate Starts for Mulciber\_78:  
(7, 45761), (9, 45698), (Start: 33 @45521 has 23 MA's), (67, 45452), (70, 45431), (75, 45410), (79,  
45386), (81, 45374), (94, 45296),

Gene: Munch\_80 Start: 45984, Stop: 45709, Start Num: 33  
Candidate Starts for Munch\_80:  
(7, 46224), (9, 46161), (Start: 33 @45984 has 23 MA's), (67, 45915), (70, 45894), (75, 45873), (79,  
45849), (81, 45837), (94, 45759),

Gene: MyraDee\_74 Start: 43043, Stop: 42735, Start Num: 38  
Candidate Starts for MyraDee\_74:  
(1, 43406), (2, 43385), (Start: 38 @43043 has 4 MA's), (42, 43022), (44, 43019), (58, 42980), (67,  
42941), (94, 42788),

Gene: NaSiaTalie\_80 Start: 46561, Stop: 46298, Start Num: 32  
Candidate Starts for NaSiaTalie\_80:  
(Start: 32 @46561 has 29 MA's), (41, 46540), (68, 46489), (81, 46426),

Gene: Naca\_74 Start: 45642, Stop: 45400, Start Num: 48  
Candidate Starts for Naca\_74:  
(Start: 48 @45642 has 8 MA's),

Gene: NearlyHeadless\_87 Start: 46723, Stop: 46481, Start Num: 54  
Candidate Starts for NearlyHeadless\_87:  
(Start: 54 @46723 has 9 MA's), (79, 46612), (80, 46603),

Gene: Neeharika16\_80 Start: 45241, Stop: 45020, Start Num: 61  
Candidate Starts for Neeharika16\_80:  
(14, 45445), (27, 45355), (Start: 61 @45241 has 28 MA's), (64, 45229),

Gene: Newrala\_80 Start: 45577, Stop: 45356, Start Num: 61  
Candidate Starts for Newrala\_80:  
(14, 45781), (27, 45691), (Start: 61 @45577 has 28 MA's), (64, 45565),

Gene: NicoleTera\_77 Start: 46504, Stop: 46226, Start Num: 32  
Candidate Starts for NicoleTera\_77:

(Start: 32 @46504 has 29 MA's), (Start: 39 @46498 has 1 MA's), (67, 46441), (79, 46375), (88, 46336), (94, 46285), (99, 46237),

Gene: NothingSpecial\_73 Start: 46180, Stop: 45911, Start Num: 32

Candidate Starts for NothingSpecial\_73:

(Start: 32 @46180 has 29 MA's), (34, 46174), (64, 46135), (67, 46117), (77, 46060), (80, 46042), (94, 45961),

Gene: OlanP\_81 Start: 46258, Stop: 46028, Start Num: 62

Candidate Starts for OlanP\_81:

(18, 46432), (21, 46408), (49, 46300), (Start: 55 @46282 has 4 MA's), (Start: 62 @46258 has 83 MA's), (75, 46189), (79, 46165), (94, 46078),

Gene: Ollie\_83 Start: 46142, Stop: 45912, Start Num: 62

Candidate Starts for Ollie\_83:

(49, 46184), (Start: 62 @46142 has 83 MA's), (64, 46133), (Start: 66 @46121 has 2 MA's), (67, 46115), (79, 46049),

Gene: Omar\_77 Start: 45438, Stop: 45142, Start Num: 56

Candidate Starts for Omar\_77:

(Start: 56 @45438 has 2 MA's), (59, 45423), (67, 45390), (68, 45375), (89, 45282),

Gene: Orange\_80 Start: 45534, Stop: 45259, Start Num: 33

Candidate Starts for Orange\_80:

(7, 45774), (9, 45711), (Start: 33 @45534 has 23 MA's), (67, 45465), (70, 45444), (75, 45423), (79, 45399), (81, 45387), (94, 45309),

Gene: P28Green\_83 Start: 46277, Stop: 46047, Start Num: 62

Candidate Starts for P28Green\_83:

(49, 46319), (Start: 62 @46277 has 83 MA's), (64, 46268), (Start: 66 @46256 has 2 MA's), (67, 46250), (79, 46184),

Gene: PGHhamlin\_85 Start: 46263, Stop: 46033, Start Num: 62

Candidate Starts for PGHhamlin\_85:

(49, 46305), (Start: 62 @46263 has 83 MA's), (64, 46254), (Start: 66 @46242 has 2 MA's), (67, 46236), (79, 46170),

Gene: PainterBoy\_81 Start: 46481, Stop: 46236, Start Num: 61

Candidate Starts for PainterBoy\_81:

(26, 46598), (31, 46568), (58, 46493), (Start: 61 @46481 has 28 MA's), (73, 46421),

Gene: Pawn\_81 Start: 46086, Stop: 45856, Start Num: 62

Candidate Starts for Pawn\_81:

(21, 46236), (49, 46128), (Start: 55 @46110 has 4 MA's), (Start: 62 @46086 has 83 MA's), (75, 46017), (79, 45993), (94, 45906),

Gene: Pembroke\_83 Start: 46272, Stop: 46042, Start Num: 62

Candidate Starts for Pembroke\_83:

(49, 46314), (Start: 62 @46272 has 83 MA's), (64, 46263), (Start: 66 @46251 has 2 MA's), (67, 46245), (79, 46179),

Gene: Penny1\_83 Start: 46275, Stop: 46045, Start Num: 62

Candidate Starts for Penny1\_83:

(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248), (79, 46182),

Gene: Petersenfast\_74 Start: 44415, Stop: 44140, Start Num: 33

Candidate Starts for Petersenfast\_74:

(7, 44655), (9, 44592), (Start: 33 @44415 has 23 MA's), (67, 44346), (70, 44325), (75, 44304), (79, 44280), (81, 44268), (94, 44190),

Gene: PetterN\_79 Start: 45429, Stop: 45187, Start Num: 48

Candidate Starts for PetterN\_79:

(Start: 48 @45429 has 8 MA's),

Gene: Phillis\_83 Start: 45739, Stop: 45497, Start Num: 54

Candidate Starts for Phillis\_83:

(Start: 54 @45739 has 9 MA's), (67, 45694), (79, 45628), (83, 45610),

Gene: PhishRPhriends\_79 Start: 45266, Stop: 45036, Start Num: 62

Candidate Starts for PhishRPhriends\_79:

(21, 45416), (49, 45308), (Start: 55 @45290 has 4 MA's), (Start: 62 @45266 has 83 MA's), (75, 45197), (79, 45173), (94, 45086),

Gene: Phlorence\_70 Start: 44259, Stop: 44014, Start Num: 47

Candidate Starts for Phlorence\_70:

(Start: 47 @44259 has 31 MA's), (63, 44223), (73, 44172), (76, 44151), (84, 44115),

Gene: Phoebe\_84 Start: 46267, Stop: 46037, Start Num: 62

Candidate Starts for Phoebe\_84:

(49, 46309), (Start: 62 @46267 has 83 MA's), (64, 46258), (Start: 66 @46246 has 2 MA's), (67, 46240), (79, 46174),

Gene: Phoxy\_83 Start: 46296, Stop: 46066, Start Num: 62

Candidate Starts for Phoxy\_83:

(49, 46338), (Start: 62 @46296 has 83 MA's), (64, 46287), (Start: 66 @46275 has 2 MA's), (67, 46269), (79, 46203),

Gene: PickleBack\_72 Start: 44434, Stop: 44189, Start Num: 47

Candidate Starts for PickleBack\_72:

(Start: 47 @44434 has 31 MA's), (63, 44398), (73, 44347), (76, 44326), (84, 44290),

Gene: Piro94\_78 Start: 46509, Stop: 46189, Start Num: 22

Candidate Starts for Piro94\_78:

(Start: 22 @46509 has 37 MA's), (64, 46416), (67, 46398), (77, 46341), (80, 46323), (94, 46242),

Gene: Pistachio\_83 Start: 46575, Stop: 46339, Start Num: 62

Candidate Starts for Pistachio\_83:

(Start: 57 @46596 has 4 MA's), (Start: 62 @46575 has 83 MA's), (75, 46506), (80, 46473), (94, 46395),

Gene: Pmask\_80 Start: 45778, Stop: 45557, Start Num: 61

Candidate Starts for Pmask\_80:

(14, 45982), (27, 45892), (Start: 61 @45778 has 28 MA's), (64, 45766),

Gene: Pomar16\_80 Start: 46631, Stop: 46359, Start Num: 32

Candidate Starts for Pomar16\_80:

(Start: 32 @46631 has 29 MA's), (67, 46568), (79, 46502), (94, 46412),

Gene: PotatoSplit\_84 Start: 46275, Stop: 46045, Start Num: 62

Candidate Starts for PotatoSplit\_84:

(49, 46317), (Start: 62 @46275 has 83 MA's), (64, 46266), (Start: 66 @46254 has 2 MA's), (67, 46248), (79, 46182),

Gene: Power\_79 Start: 47033, Stop: 46716, Start Num: 22

Candidate Starts for Power\_79:

(Start: 22 @47033 has 37 MA's), (67, 46922), (76, 46871), (77, 46865), (80, 46847), (91, 46805), (94, 46766),

Gene: Priamo\_82 Start: 45237, Stop: 44977, Start Num: 32

Candidate Starts for Priamo\_82:

(Start: 32 @45237 has 29 MA's), (67, 45177), (68, 45162), (81, 45099), (94, 45021), (97, 44982),

Gene: Prin Ashe11\_69 Start: 44073, Stop: 43828, Start Num: 47

Candidate Starts for Prin Ashe11\_69:

(Start: 47 @44073 has 31 MA's), (Start: 62 @44043 has 83 MA's), (73, 43986), (84, 43929),

Gene: Prudy\_74 Start: 46871, Stop: 46599, Start Num: 32

Candidate Starts for Prudy\_74:

(4, 47162), (5, 47159), (17, 46958), (Start: 32 @46871 has 29 MA's), (Start: 39 @46865 has 1 MA's), (67, 46808), (79, 46742), (94, 46652),

Gene: Puppy\_84 Start: 46645, Stop: 46409, Start Num: 62

Candidate Starts for Puppy\_84:

(Start: 57 @46666 has 4 MA's), (Start: 62 @46645 has 83 MA's), (75, 46576), (80, 46543),

Gene: QueenB2\_76 Start: 46156, Stop: 45854, Start Num: 43

Candidate Starts for QueenB2\_76:

(Start: 43 @46156 has 7 MA's), (73, 46066), (94, 45943),

Gene: QueenBeesly\_79 Start: 46830, Stop: 46513, Start Num: 22

Candidate Starts for QueenBeesly\_79:

(Start: 22 @46830 has 37 MA's), (67, 46719), (76, 46668), (77, 46662), (80, 46644), (91, 46602), (94, 46563),

Gene: Rachaly\_76 Start: 45987, Stop: 45709, Start Num: 32

Candidate Starts for Rachaly\_76:

(6, 46284), (Start: 32 @45987 has 29 MA's), (Start: 39 @45981 has 1 MA's), (64, 45942), (67, 45924), (77, 45867), (80, 45849), (91, 45807), (94, 45768), (99, 45720),

Gene: Reba\_78 Start: 44922, Stop: 44692, Start Num: 62

Candidate Starts for Reba\_78:

(21, 45072), (49, 44964), (Start: 55 @44946 has 4 MA's), (Start: 62 @44922 has 83 MA's), (75, 44853), (79, 44829), (94, 44742),

Gene: RedRock\_79 Start: 47115, Stop: 46849, Start Num: 39

Candidate Starts for RedRock\_79:

(3, 47439), (5, 47433), (Start: 32 @47121 has 29 MA's), (Start: 39 @47115 has 1 MA's), (67, 47058), (79, 46992), (86, 46965), (94, 46902),

Gene: Retro23\_79 Start: 46560, Stop: 46258, Start Num: 43

Candidate Starts for Retro23\_79:

(Start: 43 @46560 has 7 MA's), (73, 46470), (94, 46347),

Gene: Rifter\_81 Start: 44458, Stop: 44243, Start Num: 61

Candidate Starts for Rifter\_81:

(Start: 61 @44458 has 28 MA's), (64, 44446),

Gene: Roary\_88 Start: 46911, Stop: 46669, Start Num: 54

Candidate Starts for Roary\_88:

(Start: 54 @46911 has 9 MA's), (79, 46800), (80, 46791), (84, 46779),

Gene: Roimos\_82 Start: 46884, Stop: 46648, Start Num: 62

Candidate Starts for Roimos\_82:

(Start: 57 @46905 has 4 MA's), (Start: 62 @46884 has 83 MA's), (75, 46815), (80, 46782),

Gene: Rummer\_82 Start: 46299, Stop: 46069, Start Num: 62

Candidate Starts for Rummer\_82:

(49, 46341), (Start: 62 @46299 has 83 MA's), (64, 46290), (Start: 66 @46278 has 2 MA's), (67, 46272), (79, 46206),

Gene: Sabia\_81 Start: 46279, Stop: 46049, Start Num: 62

Candidate Starts for Sabia\_81:

(49, 46321), (Start: 62 @46279 has 83 MA's), (64, 46270), (Start: 66 @46258 has 2 MA's), (67, 46252), (79, 46186),

Gene: Sabinator\_81 Start: 46273, Stop: 46043, Start Num: 62

Candidate Starts for Sabinator\_81:

(49, 46315), (Start: 62 @46273 has 83 MA's), (64, 46264), (Start: 66 @46252 has 2 MA's), (67, 46246), (79, 46180),

Gene: Saintus\_82 Start: 43589, Stop: 43317, Start Num: 45

Candidate Starts for Saintus\_82:

(28, 43649), (Start: 45 @43589 has 3 MA's), (Start: 62 @43541 has 83 MA's), (79, 43448), (80, 43439),

Gene: Salz\_75 Start: 44330, Stop: 44055, Start Num: 33

Candidate Starts for Salz\_75:

(7, 44570), (9, 44507), (Start: 33 @44330 has 23 MA's), (67, 44261), (70, 44240), (75, 44219), (79, 44195), (81, 44183), (94, 44105),

Gene: Saskia\_77 Start: 44878, Stop: 44603, Start Num: 33

Candidate Starts for Saskia\_77:

(9, 45055), (Start: 33 @44878 has 23 MA's), (67, 44809), (70, 44788), (75, 44767), (79, 44743), (81, 44731), (94, 44653),

Gene: SaturnRing\_84 Start: 47028, Stop: 46792, Start Num: 62

Candidate Starts for SaturnRing\_84:

(Start: 57 @47049 has 4 MA's), (Start: 62 @47028 has 83 MA's), (75, 46959), (80, 46926), (94, 46848),

Gene: Scorpia\_74 Start: 45000, Stop: 44758, Start Num: 48

Candidate Starts for Scorpia\_74:

(Start: 48 @45000 has 8 MA's),

Gene: Scout\_82 Start: 46209, Stop: 45973, Start Num: 62  
Candidate Starts for Scout\_82:  
(Start: 57 @46230 has 4 MA's), (Start: 62 @46209 has 83 MA's), (75, 46140), (80, 46107),

Gene: SemperFi\_79 Start: 46718, Stop: 46401, Start Num: 22  
Candidate Starts for SemperFi\_79:  
(Start: 22 @46718 has 37 MA's), (67, 46607), (76, 46556), (77, 46550), (80, 46532), (91, 46490), (94, 46451),

Gene: Sham4\_76 Start: 44413, Stop: 44138, Start Num: 33  
Candidate Starts for Sham4\_76:  
(7, 44653), (9, 44590), (Start: 33 @44413 has 23 MA's), (67, 44344), (70, 44323), (75, 44302), (79, 44278), (81, 44266), (94, 44188),

Gene: Sknot\_79 Start: 46362, Stop: 46042, Start Num: 22  
Candidate Starts for Sknot\_79:  
(Start: 22 @46362 has 37 MA's), (35, 46308), (67, 46251), (76, 46200), (77, 46194), (80, 46176), (91, 46134), (94, 46095),

Gene: Smeadley\_86 Start: 46775, Stop: 46533, Start Num: 54  
Candidate Starts for Smeadley\_86:  
(Start: 54 @46775 has 9 MA's), (79, 46664), (80, 46655), (84, 46643),

Gene: Smeagan\_82 Start: 47272, Stop: 46952, Start Num: 22  
Candidate Starts for Smeagan\_82:  
(Start: 22 @47272 has 37 MA's), (35, 47218), (46, 47197), (64, 47179), (75, 47119), (76, 47110), (77, 47104), (80, 47086), (94, 47005),

Gene: SmellyB\_81 Start: 45136, Stop: 44915, Start Num: 61  
Candidate Starts for SmellyB\_81:  
(Start: 61 @45136 has 28 MA's), (64, 45124),

Gene: SnapTap\_79 Start: 46689, Stop: 46372, Start Num: 22  
Candidate Starts for SnapTap\_79:  
(Start: 22 @46689 has 37 MA's), (67, 46578), (76, 46527), (77, 46521), (80, 46503), (91, 46461), (94, 46422),

Gene: Snape\_80 Start: 45523, Stop: 45248, Start Num: 33  
Candidate Starts for Snape\_80:  
(7, 45763), (9, 45700), (Start: 33 @45523 has 23 MA's), (67, 45454), (70, 45433), (75, 45412), (79, 45388), (81, 45376), (94, 45298),

Gene: Snickers\_83 Start: 46244, Stop: 46014, Start Num: 62  
Candidate Starts for Snickers\_83:  
(49, 46286), (Start: 62 @46244 has 83 MA's), (64, 46235), (Start: 66 @46223 has 2 MA's), (67, 46217), (79, 46151),

Gene: SoYo\_80 Start: 46187, Stop: 45957, Start Num: 62  
Candidate Starts for SoYo\_80:  
(49, 46229), (Start: 62 @46187 has 83 MA's), (64, 46178), (Start: 66 @46166 has 2 MA's), (67, 46160), (79, 46094),

Gene: SoilDragon\_83 Start: 45714, Stop: 45484, Start Num: 62

Candidate Starts for SoilDragon\_83:

(49, 45756), (Start: 62 @45714 has 83 MA's), (64, 45705), (Start: 66 @45693 has 2 MA's), (67, 45687), (79, 45621), (94, 45534),

Gene: Soshari\_85 Start: 46274, Stop: 46065, Start Num: 66

Candidate Starts for Soshari\_85:

(49, 46337), (Start: 62 @46295 has 83 MA's), (64, 46286), (Start: 66 @46274 has 2 MA's), (67, 46268), (79, 46202),

Gene: Spike509\_83 Start: 46296, Stop: 46066, Start Num: 62

Candidate Starts for Spike509\_83:

(49, 46338), (Start: 62 @46296 has 83 MA's), (64, 46287), (Start: 66 @46275 has 2 MA's), (67, 46269), (79, 46203),

Gene: Stagni\_80 Start: 46274, Stop: 46044, Start Num: 62

Candidate Starts for Stagni\_80:

(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247), (79, 46181),

Gene: StarStuff\_80 Start: 46596, Stop: 46324, Start Num: 32

Candidate Starts for StarStuff\_80:

(Start: 32 @46596 has 29 MA's), (67, 46533), (79, 46467), (94, 46377),

Gene: StepMih\_83 Start: 46244, Stop: 46035, Start Num: 66

Candidate Starts for StepMih\_83:

(49, 46307), (Start: 62 @46265 has 83 MA's), (64, 46256), (Start: 66 @46244 has 2 MA's), (67, 46238), (79, 46172),

Gene: Stephig9\_85 Start: 46744, Stop: 46472, Start Num: 45

Candidate Starts for Stephig9\_85:

(28, 46804), (Start: 45 @46744 has 3 MA's), (Start: 62 @46696 has 83 MA's), (79, 46603), (80, 46594),

Gene: SuperAwesome\_81 Start: 45817, Stop: 45596, Start Num: 61

Candidate Starts for SuperAwesome\_81:

(14, 46021), (27, 45931), (Start: 61 @45817 has 28 MA's), (64, 45805),

Gene: SuperCallie99\_78 Start: 45658, Stop: 45437, Start Num: 61

Candidate Starts for SuperCallie99\_78:

(Start: 61 @45658 has 28 MA's), (64, 45646),

Gene: SweetiePie\_79 Start: 46821, Stop: 46504, Start Num: 22

Candidate Starts for SweetiePie\_79:

(Start: 22 @46821 has 37 MA's), (67, 46710), (76, 46659), (77, 46653), (80, 46635), (91, 46593), (94, 46554),

Gene: Swirley\_71 Start: 44403, Stop: 44158, Start Num: 47

Candidate Starts for Swirley\_71:

(Start: 47 @44403 has 31 MA's), (Start: 62 @44373 has 83 MA's), (73, 44316), (76, 44295), (84, 44259),

Gene: SydNat\_71 Start: 44601, Stop: 44359, Start Num: 47

Candidate Starts for SydNat\_71:

(Start: 47 @44601 has 31 MA's), (63, 44568), (64, 44565), (Start: 66 @44553 has 2 MA's), (73, 44517), (76, 44496), (84, 44460), (90, 44436),

Gene: TNguyen7\_84 Start: 47007, Stop: 46750, Start Num: 57

Candidate Starts for TNguyen7\_84:

(Start: 57 @47007 has 4 MA's), (Start: 62 @46986 has 83 MA's), (75, 46917), (80, 46884), (94, 46806),

Gene: TarsusIV\_79 Start: 46873, Stop: 46601, Start Num: 32

Candidate Starts for TarsusIV\_79:

(Start: 32 @46873 has 29 MA's), (34, 46867), (64, 46828), (67, 46810), (76, 46759), (77, 46753), (80, 46735), (94, 46654),

Gene: Tarynearal\_70 Start: 44239, Stop: 43994, Start Num: 47

Candidate Starts for Tarynearal\_70:

(Start: 47 @44239 has 31 MA's), (Start: 62 @44209 has 83 MA's), (73, 44152), (84, 44095),

Gene: Taurus\_84 Start: 46274, Stop: 46044, Start Num: 62

Candidate Starts for Taurus\_84:

(49, 46316), (Start: 62 @46274 has 83 MA's), (64, 46265), (Start: 66 @46253 has 2 MA's), (67, 46247), (79, 46181),

Gene: Terrific\_80 Start: 46336, Stop: 46016, Start Num: 22

Candidate Starts for Terrific\_80:

(Start: 22 @46336 has 37 MA's), (35, 46282), (67, 46225), (76, 46174), (77, 46168), (80, 46150), (91, 46108), (94, 46069),

Gene: Theia\_70 Start: 44724, Stop: 44482, Start Num: 47

Candidate Starts for Theia\_70:

(Start: 47 @44724 has 31 MA's), (63, 44691), (64, 44688), (73, 44640), (76, 44619), (84, 44583), (90, 44559),

Gene: Tiffany\_82 Start: 46159, Stop: 45929, Start Num: 62

Candidate Starts for Tiffany\_82:

(49, 46201), (Start: 62 @46159 has 83 MA's), (64, 46150), (Start: 66 @46138 has 2 MA's), (67, 46132), (79, 46066),

Gene: Tiger\_70 Start: 44180, Stop: 43935, Start Num: 47

Candidate Starts for Tiger\_70:

(Start: 47 @44180 has 31 MA's), (63, 44144), (73, 44093), (76, 44072), (84, 44036),

Gene: Timothy\_80 Start: 45500, Stop: 45225, Start Num: 33

Candidate Starts for Timothy\_80:

(7, 45740), (9, 45677), (Start: 33 @45500 has 23 MA's), (67, 45431), (70, 45410), (75, 45389), (79, 45365), (81, 45353), (94, 45275),

Gene: TinyPebbles\_82 Start: 46303, Stop: 46073, Start Num: 62

Candidate Starts for TinyPebbles\_82:

(49, 46345), (Start: 62 @46303 has 83 MA's), (Start: 66 @46282 has 2 MA's), (67, 46276), (79, 46210), (80, 46201),

Gene: TinyTimmy\_79 Start: 45229, Stop: 44954, Start Num: 33

Candidate Starts for TinyTimmy\_79:

(7, 45469), (9, 45406), (Start: 33 @45229 has 23 MA's), (67, 45160), (70, 45139), (75, 45118), (79, 45094), (81, 45082), (94, 45004),

Gene: Tomathan\_80 Start: 46674, Stop: 46402, Start Num: 32

Candidate Starts for Tomathan\_80:

(Start: 32 @46674 has 29 MA's), (67, 46611), (79, 46545), (94, 46455),

Gene: Travvers\_80 Start: 46591, Stop: 46319, Start Num: 32

Candidate Starts for Travvers\_80:

(Start: 32 @46591 has 29 MA's), (67, 46528), (79, 46462), (94, 46372),

Gene: Triumph\_78 Start: 47686, Stop: 47393, Start Num: 55

Candidate Starts for Triumph\_78:

(40, 47734), (Start: 55 @47686 has 4 MA's), (100, 47437),

Gene: Trixie\_80 Start: 47546, Stop: 47271, Start Num: 32

Candidate Starts for Trixie\_80:

(Start: 32 @47546 has 29 MA's), (67, 47480), (80, 47405), (86, 47387), (94, 47324),

Gene: Trooper\_79 Start: 46430, Stop: 46158, Start Num: 32

Candidate Starts for Trooper\_79:

(13, 46544), (Start: 32 @46430 has 29 MA's), (34, 46424), (64, 46385), (67, 46367), (77, 46310), (80, 46292), (91, 46250), (94, 46211),

Gene: Turbido\_80 Start: 46993, Stop: 46673, Start Num: 22

Candidate Starts for Turbido\_80:

(Start: 22 @46993 has 37 MA's), (35, 46939), (46, 46918), (64, 46900), (75, 46840), (76, 46831), (77, 46825), (80, 46807), (94, 46726),

Gene: Twigg\_70 Start: 44051, Stop: 43806, Start Num: 47

Candidate Starts for Twigg\_70:

(Start: 47 @44051 has 31 MA's), (Start: 62 @44021 has 83 MA's), (73, 43964), (84, 43907),

Gene: UnionJack\_75 Start: 44664, Stop: 44422, Start Num: 48

Candidate Starts for UnionJack\_75:

(Start: 48 @44664 has 8 MA's), (63, 44631),

Gene: Updawg\_80 Start: 46550, Stop: 46230, Start Num: 22

Candidate Starts for Updawg\_80:

(Start: 22 @46550 has 37 MA's), (35, 46496), (67, 46439), (76, 46388), (77, 46382), (80, 46364), (91, 46322), (94, 46283),

Gene: VA6\_79 Start: 46565, Stop: 46284, Start Num: 22

Candidate Starts for VA6\_79:

(Start: 22 @46565 has 37 MA's), (Start: 23 @46559 has 2 MA's), (64, 46511), (67, 46493), (69, 46475), (77, 46436), (80, 46418), (91, 46376), (94, 46337),

Gene: VC3\_78 Start: 45517, Stop: 45221, Start Num: 32

Candidate Starts for VC3\_78:

(Start: 32 @45517 has 29 MA's), (79, 45385), (94, 45295),

Gene: Vix\_79 Start: 46354, Stop: 46124, Start Num: 62

Candidate Starts for Vix\_79:

(49, 46396), (Start: 62 @46354 has 83 MA's), (Start: 66 @46333 has 2 MA's), (67, 46327), (79, 46261),

Gene: VohminGhazi\_81 Start: 45137, Stop: 44916, Start Num: 61

Candidate Starts for VohminGhazi\_81:

(Start: 61 @45137 has 28 MA's), (64, 45125),

Gene: Watson\_82 Start: 46263, Stop: 46033, Start Num: 62

Candidate Starts for Watson\_82:

(49, 46305), (Start: 62 @46263 has 83 MA's), (64, 46254), (Start: 66 @46242 has 2 MA's), (67, 46236), (79, 46170),

Gene: Whabigail7\_79 Start: 46991, Stop: 46671, Start Num: 22

Candidate Starts for Whabigail7\_79:

(Start: 22 @46991 has 37 MA's), (35, 46937), (46, 46916), (64, 46898), (75, 46838), (76, 46829), (77, 46823), (80, 46805), (94, 46724),

Gene: WideWale\_80 Start: 46550, Stop: 46230, Start Num: 22

Candidate Starts for WideWale\_80:

(Start: 22 @46550 has 37 MA's), (35, 46496), (67, 46439), (76, 46388), (77, 46382), (80, 46364), (91, 46322), (94, 46283),

Gene: Wolpertinger\_79 Start: 45532, Stop: 45257, Start Num: 33

Candidate Starts for Wolpertinger\_79:

(7, 45772), (9, 45709), (Start: 33 @45532 has 23 MA's), (67, 45463), (70, 45442), (75, 45421), (79, 45397), (81, 45385), (94, 45307),

Gene: Wooldri\_85 Start: 46180, Stop: 45950, Start Num: 62

Candidate Starts for Wooldri\_85:

(49, 46222), (Start: 62 @46180 has 83 MA's), (64, 46171), (Start: 66 @46159 has 2 MA's), (67, 46153), (79, 46087),

Gene: XianYue\_78 Start: 46882, Stop: 46607, Start Num: 32

Candidate Starts for XianYue\_78:

(13, 46996), (Start: 32 @46882 has 29 MA's), (67, 46813), (79, 46747), (80, 46738), (88, 46708), (94, 46657),

Gene: Zolita\_70 Start: 44584, Stop: 44342, Start Num: 47

Candidate Starts for Zolita\_70:

(Start: 47 @44584 has 31 MA's), (63, 44551), (64, 44548), (Start: 66 @44536 has 2 MA's), (73, 44500), (76, 44479), (84, 44443), (90, 44419),