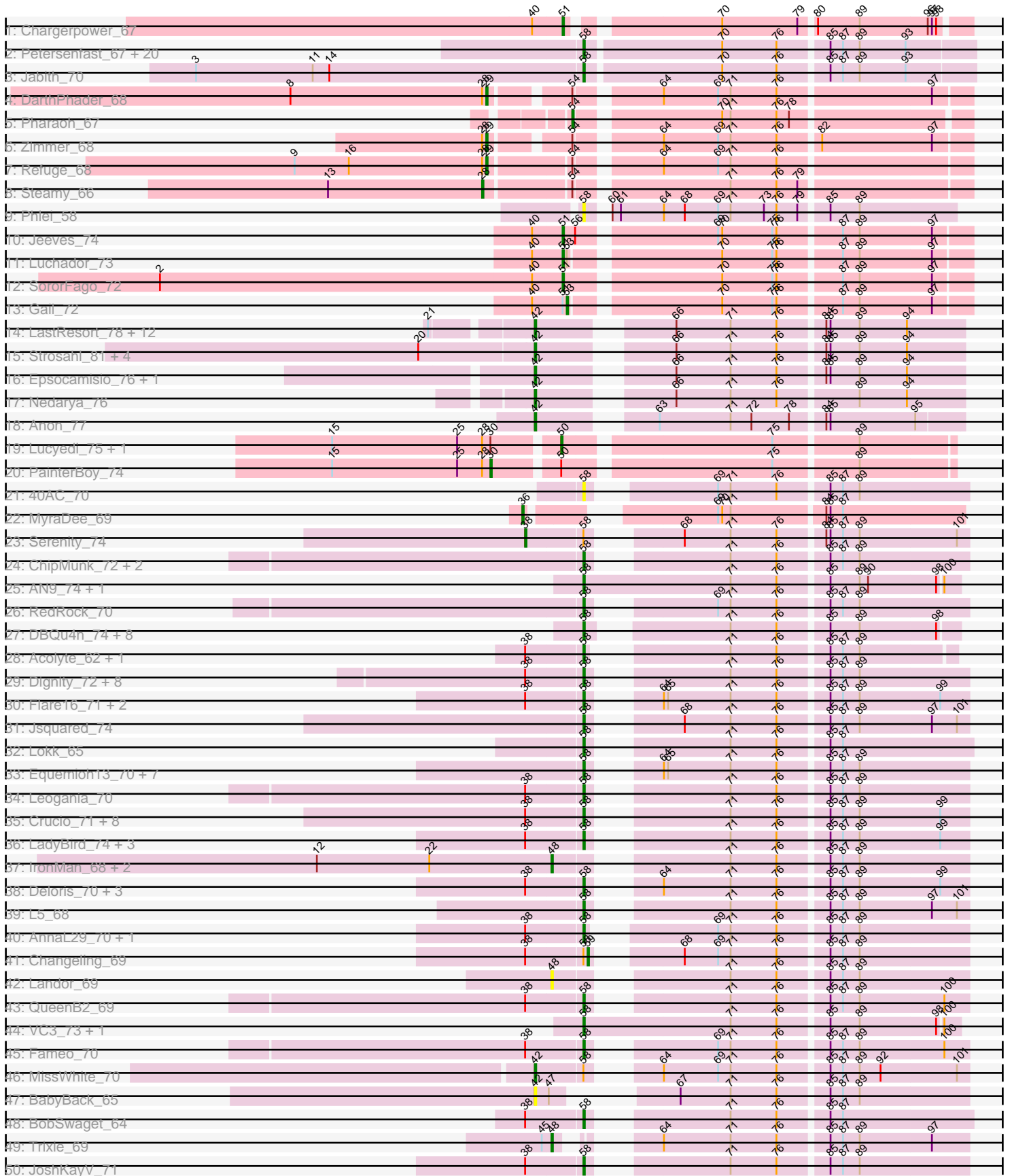
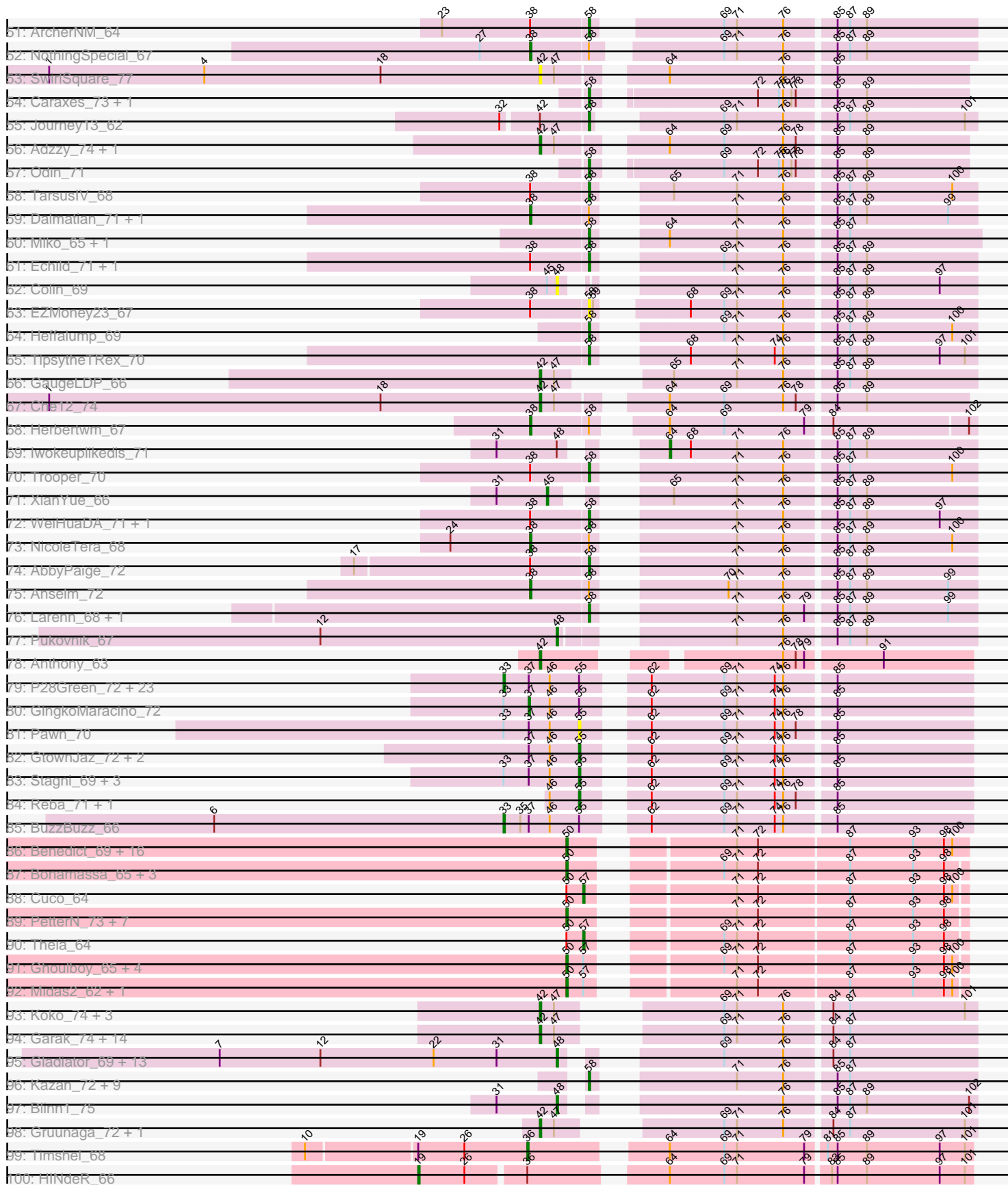


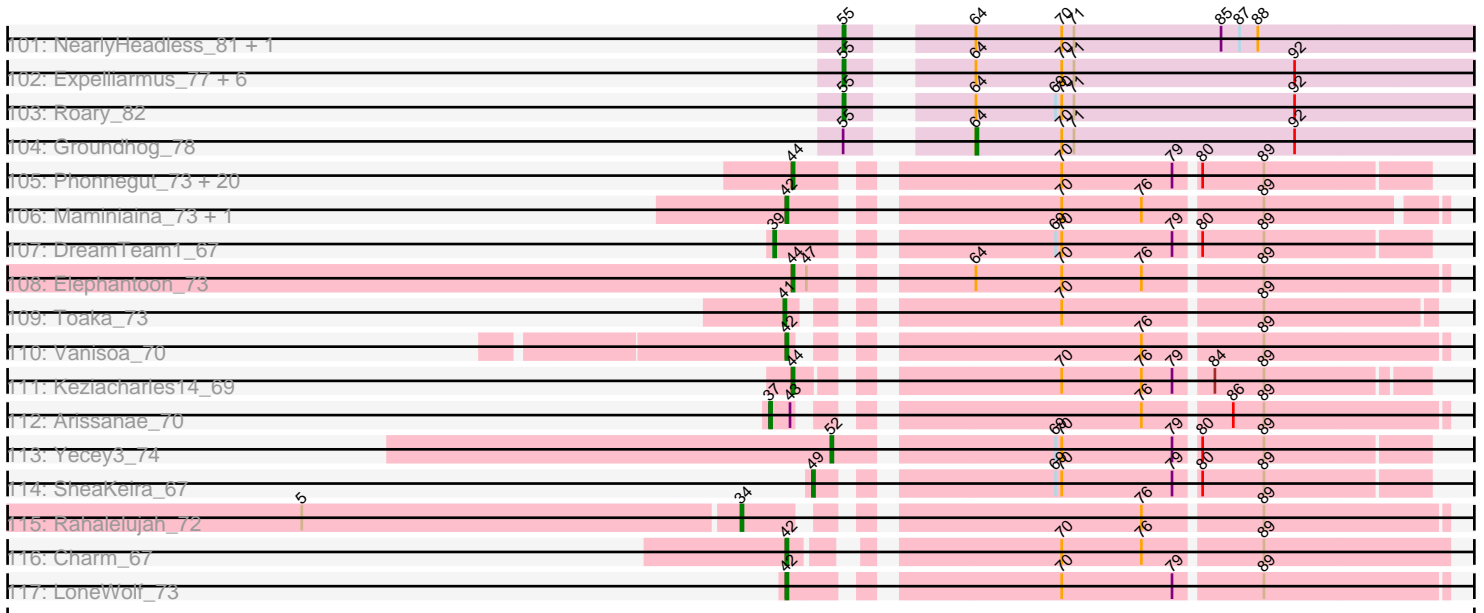
Pham 163285



Pham 163285



Pham 163285



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 163285 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163285 has 337 members, 25 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_67
- Track 2 : Petersenfast\_67, Orange\_68, Bachome\_71, Bowtie\_70, Snape\_69, Gilberta\_70, Et2Brutus\_68, Mabel\_69, MaCh\_69, Sham4\_69, Bud\_68, Salz\_68, Hutc2\_68, Flaverint\_70, Timothy\_69, Fibonacci\_69, Munch\_69, Mulciber\_68, Lucivia\_70, Ebony\_69, Aneem\_70
- Track 3 : Jabith\_70
- Track 4 : DarthPhader\_68
- Track 5 : Pharaoh\_67
- Track 6 : Zimmer\_68
- Track 7 : Refugee\_68
- Track 8 : Steamy\_66
- Track 9 : Phlei\_58
- Track 10 : Jeeves\_74
- Track 11 : Luchador\_73
- Track 12 : SororFago\_72
- Track 13 : Gail\_72
- Track 14 : LastResort\_78, KatherineG\_80, DekHockey33\_81, Rosalind\_78, Looper\_79, Boohoo\_80, Battleship\_82, Nebulosus\_77, ReMo\_78, ShayRa\_80, Switzerland\_79, MinecraftSteve\_80, Anaysia\_80
- Track 15 : Strosahl\_81, Oofda\_80, Waits\_80, Soups\_80, Remus\_81
- Track 16 : Epsocamisio\_76, JSwag\_79
- Track 17 : Nedarya\_76
- Track 18 : Anon\_77
- Track 19 : Lucyedi\_75, EagleEye\_76
- Track 20 : PainterBoy\_74
- Track 21 : 40AC\_70
- Track 22 : MyraDee\_69
- Track 23 : Serenity\_74
- Track 24 : ChipMunk\_72, EvilGenius\_71, KingCyrus\_71
- Track 25 : AN9\_74, ANI8\_74
- Track 26 : RedRock\_70
- Track 27 : DBQu4n\_74, D29\_68, D32\_73, Tomathan\_74, StarStuff\_74, Naji\_74, Pomar16\_73, Kerberos\_74, Duplo\_74
- Track 28 : Acolyte\_62, BiancaTri92\_70
- Track 29 : Dignity\_72, Agape74\_72, Jerm\_72, Bugsy\_72, Leviathan\_72, LilTurb\_71, Smeagan\_73, Turbido\_71, Whabigail7\_71
- Track 30 : Flare16\_71, MiculUcigas\_71, NaSiaTalie\_71

- Track 31 : Jsquared\_74
- Track 32 : Lokk\_65
- Track 33 : Equemioh13\_70, Centaur\_71, Piro94\_70, WideWale\_71, Updawg\_71, HarryHoudini\_71, Drake55\_72, Baehexic\_69
- Track 34 : Leogania\_70
- Track 35 : Crucio\_71, Power\_70, SemperFi\_71, SweetiePie\_70, QueenBeesly\_71, Retro23\_71, FiringLine\_71, SnapTap\_70, Georgie2\_72
- Track 36 : LadyBird\_74, First\_0071, CRB1\_72, 20ES\_72
- Track 37 : IronMan\_68, Phaded\_66, Jaan\_69
- Track 38 : Deloris\_70, VA6\_70, AN3\_72, BengiVuitton\_70
- Track 39 : L5\_68
- Track 40 : AnnaL29\_70, Loser\_72
- Track 41 : Changeling\_69
- Track 42 : Landor\_69
- Track 43 : QueenB2\_69
- Track 44 : VC3\_73, C3\_67
- Track 45 : Fameo\_70
- Track 46 : MissWhite\_70
- Track 47 : BabyBack\_65
- Track 48 : BobSwaget\_64
- Track 49 : Trixie\_69
- Track 50 : JoshKayV\_71
- Track 51 : ArcherNM\_64
- Track 52 : NothingSpecial\_67
- Track 53 : SwirlSquare\_77
- Track 54 : Caraxes\_73, Superchunk\_72
- Track 55 : Journey13\_62
- Track 56 : Adzzy\_74, Ph8s\_74
- Track 57 : Odin\_71
- Track 58 : TarsusIV\_68
- Track 59 : Dalmatian\_71, DudeLittle\_69
- Track 60 : Miko\_65, Rachaly\_67
- Track 61 : Echild\_71, Benvolio\_68
- Track 62 : Colin\_69
- Track 63 : EZMoney23\_67
- Track 64 : Heffalump\_69
- Track 65 : TipsytheTRex\_70
- Track 66 : GaugeLDP\_66
- Track 67 : Che12\_74
- Track 68 : Herbertwm\_67
- Track 69 : Iwokeuplikedis\_71
- Track 70 : Trooper\_70
- Track 71 : XianYue\_66
- Track 72 : WeiHuaDA\_71, Kalpine\_70
- Track 73 : NicoleTera\_68
- Track 74 : AbbyPaige\_72
- Track 75 : Anselm\_72
- Track 76 : Larenn\_68, Malec\_69
- Track 77 : Pukovnik\_67
- Track 78 : Anthony\_63
- Track 79 : P28Green\_72, Cullens\_72, EpicPhail\_73, Sabinator\_70, Beauxregard13\_71, Ollie\_72, Marie\_70, MoneyMay\_71, Penny1\_72, LugYA\_75, JenCasNa\_73, Fernando\_72, Hercules11\_72, Taurus\_73, Phoxy\_72, PotatoSplit\_73,

Colbster\_68, Rummer\_71, Spike509\_72, Grum1\_71, Anubis\_75, LBerry\_73, StepMih\_71, SoYo\_69

- Track 80 : GingkoMaracino\_72
- Track 81 : Pawn\_70
- Track 82 : GtownJaz\_72, Grif\_70, LarryKay\_72
- Track 83 : Stagni\_69, HashRod\_73, Bxz2\_67, Phoebe\_73
- Track 84 : Reba\_71, Phranny\_72
- Track 85 : BuzzBuzz\_66
- Track 86 : Benedict\_69, Aragog\_65, Phlorence\_64, ElTiger69\_71, ForGetIt\_66, Jabiru\_67, Airmid\_68, Jovo\_66, PickleBack\_66, Naca\_68, Tiger\_65, AgentM\_65, UnionJack\_69, Tarynearal\_64, Conspiracy\_66, Discoknowium\_63, Lev2\_66
- Track 87 : Bonamassa\_65, Micasa\_63, MarysWell\_65, Dublin\_65
- Track 88 : Cuco\_64
- Track 89 : PetterN\_73, HuhtaEnerson15\_63, Swirley\_65, Scorpia\_69, LittleCherry\_64, George\_62, Milcery\_65, Chadwick\_69
- Track 90 : Theia\_64
- Track 91 : Ghoulboy\_65, Archetta\_63, Zolita\_64, SydNat\_65, Bluefalcon\_61
- Track 92 : Midas2\_62, Coog\_62
- Track 93 : Koko\_74, Hexamo\_72, Artemis2UCLA\_72, CloudWang3\_73
- Track 94 : Garak\_74, Rifter\_73, Zaka\_73, Wiks\_72, Tucker\_73, Lilbunny\_70, Jeffabunny\_73, Hammer\_73, Yokurt\_72, WunderPhul\_73, Zulu\_74, Helmet\_74, ToneTone\_70, Blue7\_74, Indra\_76
- Track 95 : Gladiator\_69, BABullseye\_64, Cookiedough\_71, McFly\_71, Isiphiwo\_69, Priamo\_73, SuperCallie99\_68, Newrala\_71, Dorothea\_68, Pmask\_70, SuperAwesome\_71, JewelBug\_71, Neeharika16\_68, Jordennis\_70
- Track 96 : Kazan\_72, SmellyB\_71, Chartreuse\_68, Hoot\_66, Candra\_69, EricB\_70, GreedyLawyer\_68, DaVinci\_69, Kipper29\_71, VohminGhazi\_71
- Track 97 : Blinn1\_75
- Track 98 : Gruunaga\_72, Roksolana\_73
- Track 99 : Timshel\_68
- Track 100 : HINdeR\_66
- Track 101 : NearlyHeadless\_81, Phillis\_77
- Track 102 : Expelliarmus\_77, Astro\_80, Saintus\_76, Dixon\_79, Danforth\_81, Stephig9\_79, Smeadley\_80
- Track 103 : Roary\_82
- Track 104 : Groundhog\_78
- Track 105 : Phonnegut\_73, Conquerage\_71, Alma\_71, Fayely\_71, Myxus\_73, EmyBug\_67, Spouty\_68, Tubs\_73, ExplosioNervosa\_71, Priya\_71, Phaeder\_73, Qobbit\_71, HortumSL17\_74, Aliter\_74, Scherzo\_72, PackMan\_72, Catalina\_75, Beemo\_73, Ugenie5\_68, Eidsmoe\_71, Pioneer\_73
- Track 106 : Maminiaina\_73, BogosyJay\_73
- Track 107 : DreamTeam1\_67
- Track 108 : Elephantoon\_73
- Track 109 : Toaka\_73
- Track 110 : Vanisoa\_70
- Track 111 : Keziacharles14\_69
- Track 112 : Arissanae\_70
- Track 113 : Yecey3\_74
- Track 114 : SheaKeira\_67
- Track 115 : Rahalelujah\_72
- Track 116 : Charm\_67
- Track 117 : LoneWolf\_73

**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 108 of the 312 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_72, 40AC\_70, AN3\_72, AN9\_74, ANI8\_74, AbbyPaige\_72, Acolyte\_62, Agape74\_72, Aneem\_70, AnnaL29\_70, ArcherNM\_64, Bachome\_71, Baehexic\_69, BengiVuitton\_70, Benvolio\_68, BiancaTri92\_70, BobSwaget\_64, Bowtie\_70, Bud\_68, Buggy\_72, C3\_67, CRB1\_72, Candra\_69, Caraxes\_73, Centaur\_71, Chartreuse\_68, ChipMunk\_72, Crucio\_71, D29\_68, D32\_73, DBQu4n\_74, DaVinci\_69, Deloris\_70, Dignity\_72, Drake55\_72, Duplo\_74, EZMoney23\_67, Ebony\_69, Echild\_71, Equemioh13\_70, EricB\_70, Et2Brutus\_68, EvilGenius\_71, Fameo\_70, Fibonacci\_69, FiringLine\_71, First\_0071, Flare16\_71, Flaverint\_70, Georgie2\_72, Gilberta\_70, GreedyLawyer\_68, HarryHoudini\_71, Heffalump\_69, Hoot\_66, Hutc2\_68, Jabith\_70, Jerm\_72, JoshKayV\_71, Journey13\_62, Jsquared\_74, Kalpine\_70, Kazan\_72, Kerberos\_74, KingCyrus\_71, Kipper29\_71, L5\_68, LadyBird\_74, Larenn\_68, Leogania\_70, Leviathan\_72, LilTurb\_71, Lokk\_65, Loser\_72, Lucivia\_70, MaCh\_69, Mabel\_69, Malec\_69, MiculUcigas\_71, Miko\_65, Mulciber\_68, Munch\_69, NaSiaTalie\_71, Naji\_74, Odin\_71, Orange\_68, Petersenfast\_67, Phlei\_58, Piro94\_70, Pomar16\_73, Power\_70, QueenB2\_69, QueenBeesly\_71, Rachaly\_67, RedRock\_70, Retro23\_71, Salz\_68, SemperFi\_71, Sham4\_69, Smeagan\_73, SmellyB\_71, SnapTap\_70, Snape\_69, StarStuff\_74, Superchunk\_72, SweetiePie\_70, TarsusIV\_68, Timothy\_69, TopsytheTRex\_70, Tomathan\_74, Trooper\_70, Turbido\_71, Updawg\_71, VA6\_70, VC3\_73, VohminGhazi\_71, WeiHuaDA\_71, Whabigail7\_71, WideWale\_71,

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

- Anselm\_72, Changeling\_69, Dalmatian\_71, DudeLittle\_69, Herbertwm\_67, MissWhite\_70, NicoleTera\_68, NothingSpecial\_67, Serenity\_74,

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

- Adzzy\_74, AgentM\_65, Airmid\_68, Aliter\_74, Alma\_71, Anaysia\_80, Anon\_77, Anthony\_63, Anubis\_75, Aragog\_65, Archetta\_63, Arissanae\_70, Artemis2UCLA\_72, Astro\_80, BABullseye\_64, BabyBack\_65, Battleship\_82, Beauxregard13\_71, Beemo\_73, Benedict\_69, Blinn1\_75, Blue7\_74, Bluefalcon\_61, BogosyJay\_73, Bonamassa\_65, Boohoo\_80, BuzzBuzz\_66, Bxz2\_67, Catalina\_75, Chadwick\_69, Chargerpower\_67, Charm\_67, Che12\_74, CloudWang3\_73, Colbster\_68, Colin\_69, Conquerage\_71, Conspiracy\_66, Coog\_62, Cookiedough\_71, Cuco\_64, Cullens\_72, Danforth\_81, DARTHPhader\_68, DekHockey33\_81, Discoknowium\_63, Dixon\_79, Dorothea\_68, DreamTeam1\_67, Dublin\_65, EagleEye\_76, Eidsmoe\_71, EITiger69\_71, Elephantoon\_73, EmyBug\_67, EpicPhail\_73, Epsocamisio\_76, Expelliarmus\_77, ExplosioNervosa\_71, Fayely\_71, Fernando\_72, ForGetIt\_66, Gail\_72, Garak\_74, GaugeLDP\_66, George\_62, Ghoulyboy\_65, GingkoMaracino\_72, Gladiator\_69, Grif\_70, Groundhog\_78, Grum1\_71, Gruunaga\_72, GtownJaz\_72, HINdeR\_66, Hammer\_73, HashRod\_73, Helmet\_74, Hercules11\_72, Hexamo\_72, HortumSL17\_74, HuhtaEnerson15\_63, Indra\_76, IronMan\_68, Isiphiwo\_69, Iwokeuplikedis\_71, JSwag\_79, Jaan\_69, Jabiru\_67, Jeeves\_74, Jeffabunny\_73, JenCasNa\_73, JewelBug\_71, Jordennis\_70, Jovo\_66, KatherineG\_80, Keziacharles14\_69, Koko\_74, LBerry\_73, Landor\_69, LarryKay\_72, LastResort\_78,

Lev2\_66, Lilbunny\_70, LittleCherry\_64, LoneWolf\_73, Looper\_79, Luchador\_73, Lucyedi\_75, LugYA\_75, Maminiaina\_73, Marie\_70, MarysWell\_65, McFly\_71, Micasa\_63, Midas2\_62, Milcery\_65, MinecraftSteve\_80, MoneyMay\_71, MyraDee\_69, Myxus\_73, Naca\_68, NearlyHeadless\_81, Nebulosus\_77, Nedarya\_76, Neeharika16\_68, Newrala\_71, Ollie\_72, Oofda\_80, P28Green\_72, PackMan\_72, PainterBoy\_74, Pawn\_70, Penny1\_72, PetterN\_73, Ph8s\_74, Phaded\_66, Phaeder\_73, Pharaoh\_67, Phillis\_77, Phlorence\_64, Phoebe\_73, Phonnegut\_73, Phoxy\_72, Phranny\_72, PickleBack\_66, Pioneer\_73, Pmask\_70, PotatoSplit\_73, Priamo\_73, Priya\_71, Pukovnik\_67, Qobbit\_71, Rahalelujah\_72, ReMo\_78, Reba\_71, Refuge\_68, Remus\_81, Rifter\_73, Roary\_82, Roksolana\_73, Rosalind\_78, Rummer\_71, Sabinator\_70, Saintus\_76, Scherzo\_72, Scorpia\_69, ShayRa\_80, SheaKeira\_67, Smeadley\_80, SoYo\_69, SororFago\_72, Soups\_80, Spike509\_72, Spouty\_68, Stagni\_69, Steamy\_66, StepMih\_71, Stepfig9\_79, Strosahl\_81, SuperAwesome\_71, SuperCallie99\_68, SwirlSquare\_77, Swirley\_65, Switzerland\_79, SydNat\_65, Tarynearal\_64, Taurus\_73, Theia\_64, Tiger\_65, Timshel\_68, Toaka\_73, ToneTone\_70, Trixie\_69, Tubs\_73, Tucker\_73, Ugenie5\_68, UnionJack\_69, Vanisoa\_70, Waits\_80, Wiks\_72, WunderPhul\_73, XianYue\_66, Yecy3\_74, Yokurt\_72, Zaka\_73, Zimmer\_68, Zolita\_64, Zulu\_74,

### Summary by start number:

#### Start 19:

- Found in 2 of 337 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 50.0% of time when present
- Phage (with cluster) where this start called: HINdeR\_66 (A7),

#### Start 28:

- Found in 7 of 337 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Steamy\_66 (A12),

#### Start 29:

- Found in 3 of 337 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 3 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DARTHPhader\_68 (A12), Refuge\_68 (A12), Zimmer\_68 (A12),

#### Start 30:

- Found in 3 of 337 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 33.3% of time when present
- Phage (with cluster) where this start called: PainterBoy\_74 (A16),

#### Start 33:

- Found in 31 of 337 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 25 of 312
- Called 80.6% of time when present
- Phage (with cluster) where this start called: Anubis\_75 (A3), Beauxregard13\_71 (A3), BuzzBuzz\_66 (A3), Colbster\_68 (A3), Cullens\_72 (A3), EpicPhail\_73 (A3), Fernando\_72 (A3), Grum1\_71 (A3), Hercules11\_72 (A3), JenCasNa\_73 (A3),



LBerry\_73 (A3), LugYA\_75 (A3), Marie\_70 (A3), MoneyMay\_71 (A3), Ollie\_72 (A3), P28Green\_72 (A3), Penny1\_72 (A3), Phoxy\_72 (A3), PotatoSplit\_73 (A3), Rummer\_71 (A3), Sabinator\_70 (A3), SoYo\_69 (A3), Spike509\_72 (A3), StepMih\_71 (A3), Taurus\_73 (A3),

Start 34:

- Found in 1 of 337 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rahalelujah\_72 (A9),

Start 36:

- Found in 3 of 337 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 66.7% of time when present
- Phage (with cluster) where this start called: MyraDee\_69 (A18), Timshel\_68 (A7),

Start 37:

- Found in 35 of 337 ( 10.4% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 5.7% of time when present
- Phage (with cluster) where this start called: Arissanae\_70 (A9), GingkoMaracino\_72 (A3),

Start 38:

- Found in 55 of 337 ( 16.3% ) of genes in pham
- Manual Annotations of this start: 7 of 312
- Called 12.7% of time when present
- Phage (with cluster) where this start called: Anselm\_72 (A2), Dalmatian\_71 (A2), DudeLittle\_69 (A2), Herbertwm\_67 (A2), NicoleTera\_68 (A2), NothingSpecial\_67 (A2), Serenity\_74 (A2),

Start 39:

- Found in 1 of 337 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DreamTeam1\_67 (A9),

Start 41:

- Found in 1 of 337 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toaka\_73 (A9),

Start 42:

- Found in 57 of 337 ( 16.9% ) of genes in pham
- Manual Annotations of this start: 50 of 312
- Called 98.2% of time when present
- Phage (with cluster) where this start called: Adzzy\_74 (A2), Anaysia\_80 (A15), Anon\_77 (A15), Anthony\_63 (A20), Artemis2UCLA\_72 (A6), BabyBack\_65 (A2), Battleship\_82 (A15), Blue7\_74 (A6), BogosyJay\_73 (A9), Boohoo\_80 (A15), Charm\_67 (A9), Che12\_74 (A2), CloudWang3\_73 (A6), DekHockey33\_81 (A15), Epsocamisio\_76 (A15), Garak\_74 (A6), GaugeLDP\_66 (A2), Gruunaga\_72 (A6),

Hammer\_73 (A6), Helmet\_74 (A6), Hexamo\_72 (A6), Indra\_76 (A6), JSwag\_79 (A15), Jeffabunny\_73 (A6), KatherineG\_80 (A15), Koko\_74 (A6), LastResort\_78 (A15), Lilbunny\_70 (A6), LoneWolf\_73 (A9), Looper\_79 (A15), Maminina\_73 (A9), MinecraftSteve\_80 (A15), MissWhite\_70 (A2), Nebulosus\_77 (A15), Nedarya\_76 (A15), Oofda\_80 (A15), Ph8s\_74 (A2), ReMo\_78 (A15), Remus\_81 (A15), Rifter\_73 (A6), Roksolana\_73 (A6), Rosalind\_78 (A15), ShayRa\_80 (A15), Soups\_80 (A15), Strosahl\_81 (A15), SwirlSquare\_77 (A2), Switzerland\_79 (A15), ToneTone\_70 (A6), Tucker\_73 (A6), Vanisoa\_70 (A9), Waits\_80 (A15), Wiks\_72 (A6), WunderPhul\_73 (A6), Yokurt\_72 (A6), Zaka\_73 (A6), Zulu\_74 (A6),

Start 44:

- Found in 23 of 337 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 21 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aliter\_74 (A9), Alma\_71 (A9), Beemo\_73 (A9), Catalina\_75 (A9), Conquerage\_71 (A9), Eidsmoe\_71 (A9), Elephantoon\_73 (A9), EmyBug\_67 (A9), ExplosioNervosa\_71 (A9), Fayely\_71 (A9), HortumSL17\_74 (A9), Keziacharles14\_69 (A9), Myxus\_73 (A9), PackMan\_72 (A9), Phaeder\_73 (A9), Phonnegut\_73 (A9), Pioneer\_73 (A9), Priya\_71 (A9), Qobbit\_71 (A9), Scherzo\_72 (A9), Spouty\_68 (A9), Tubs\_73 (A9), Ugenie5\_68 (A9),

Start 45:

- Found in 3 of 337 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 33.3% of time when present
- Phage (with cluster) where this start called: XianYue\_66 (A2),

Start 48:

- Found in 23 of 337 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 18 of 312
- Called 95.7% of time when present
- Phage (with cluster) where this start called: BABullseye\_64 (A6), Blinn1\_75 (A6), Colin\_69 (A2), Cookiedough\_71 (A6), Dorothea\_68 (A6), Gladiator\_69 (A6), IronMan\_68 (A2), Isiphiwo\_69 (A6), Jaan\_69 (A2), JewelBug\_71 (A6), Jordennis\_70 (A6), Landor\_69 (A2), McFly\_71 (A6), Neeharika16\_68 (A6), Newrala\_71 (A6), Phaded\_66 (A2), Pmask\_70 (A6), Priamo\_73 (A6), Pukovnik\_67 (A2), SuperAwesome\_71 (A6), SuperCallie99\_68 (A6), Trixie\_69 (A2),

Start 49:

- Found in 1 of 337 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SheaKeira\_67 (A9),

Start 50:

- Found in 41 of 337 ( 12.2% ) of genes in pham
- Manual Annotations of this start: 37 of 312
- Called 92.7% of time when present
- Phage (with cluster) where this start called: AgentM\_65 (A5), Airmid\_68 (A5), Aragog\_65 (A5), Archetta\_63 (A5), Benedict\_69 (A5), Bluefalcon\_61 (A5), Bonamassa\_65 (A5), Chadwick\_69 (A5), Conspiracy\_66 (A5), Coog\_62 (A5), Discoknowium\_63 (A5), Dublin\_65 (A5), EagleEye\_76 (A16), EITiger69\_71 (A5), ForGetIt\_66 (A5), George\_62 (A5), Ghouboy\_65 (A5), HuhtaEnerson15\_63 (A5),

Jabiru\_67 (A5), Jovo\_66 (A5), Lev2\_66 (A5), LittleCherry\_64 (A5), Lucyedi\_75 (A16), MarysWell\_65 (A5), Micasa\_63 (A5), Midas2\_62 (A5), Milcery\_65 (A5), Naca\_68 (A5), PetterN\_73 (A5), Phlorence\_64 (A5), PickleBack\_66 (A5), Scorpia\_69 (A5), Swirley\_65 (A5), SydNat\_65 (A5), Tarynearal\_64 (A5), Tiger\_65 (A5), UnionJack\_69 (A5), Zolita\_64 (A5),

Start 51:

- Found in 5 of 337 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 4 of 312
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Chargerpower\_67 (A), Jeeves\_74 (A14), Luchador\_73 (A14), SororFago\_72 (A14),

Start 52:

- Found in 1 of 337 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yecey3\_74 (A9),

Start 53:

- Found in 2 of 337 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Gail\_72 (A14),

Start 54:

- Found in 5 of 337 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Pharaoh\_67 (A12),

Start 55:

- Found in 47 of 337 ( 13.9% ) of genes in pham
- Manual Annotations of this start: 19 of 312
- Called 42.6% of time when present
- Phage (with cluster) where this start called: Astro\_80 (A8), Bxz2\_67 (A3), Danforth\_81 (A8), Dixon\_79 (A8), Expelliarmus\_77 (A8), Grif\_70 (A3), GtownJaz\_72 (A3), HashRod\_73 (A3), LarryKay\_72 (A3), NearlyHeadless\_81 (A8), Pawn\_70 (A3), Phillis\_77 (A8), Phoebe\_73 (A3), Phranny\_72 (A3), Reba\_71 (A3), Roary\_82 (A8), Saintus\_76 (A8), Smeadley\_80 (A8), Stagni\_69 (A3), Stepbig9\_79 (A8),

Start 57:

- Found in 9 of 337 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 22.2% of time when present
- Phage (with cluster) where this start called: Cuco\_64 (A5), Theia\_64 (A5),

Start 58:

- Found in 128 of 337 ( 38.0% ) of genes in pham
- Manual Annotations of this start: 108 of 312
- Called 93.0% of time when present
- Phage (with cluster) where this start called: 20ES\_72 (A2), 40AC\_70 (A17), AN3\_72 (A2), AN9\_74 (A2), ANI8\_74 (A2), AbbyPaige\_72 (A2), Acolyte\_62 (A2), Agape74\_72

(A2), Aneem\_70 (A11), AnnaL29\_70 (A2), ArcherNM\_64 (A2), Bachome\_71 (A11), Baehexic\_69 (A2), BengiVuitton\_70 (A2), Benvolio\_68 (A2), BiancaTri92\_70 (A2), BobSwaget\_64 (A2), Bowtie\_70 (A11), Bud\_68 (A11), Buggy\_72 (A2), C3\_67 (A2), CRB1\_72 (A2), Candra\_69 (A6), Caraxes\_73 (A2), Centaur\_71 (A2), Chartreuse\_68 (A6), ChipMunk\_72 (A2), Crucio\_71 (A2), D29\_68 (A2), D32\_73 (A2), DBQu4n\_74 (A2), DaVinci\_69 (A6), Deloris\_70 (A2), Dignity\_72 (A2), Drake55\_72 (A2), Duplo\_74 (A2), EZMoney23\_67 (A2), Ebony\_69 (A11), Echild\_71 (A2), Equemioh13\_70 (A2), EricB\_70 (A6), Et2Brutus\_68 (A11), EvilGenius\_71 (A2), Fameo\_70 (A2), Fibonacci\_69 (A11), FiringLine\_71 (A2), First\_0071 (A2), Flare16\_71 (A2), Flaverint\_70 (A11), Georgie2\_72 (A2), Gilberta\_70 (A11), GreedyLawyer\_68 (A6), HarryHoudini\_71 (A2), Heffalump\_69 (A2), Hoot\_66 (A6), Hutc2\_68 (A11), Jabith\_70 (A11), Jerm\_72 (A2), JoshKayV\_71 (A2), Journey13\_62 (A2), Jsquared\_74 (A2), Kalpine\_70 (A2), Kazan\_72 (A6), Kerberos\_74 (A2), KingCyrus\_71 (A2), Kipper29\_71 (A6), L5\_68 (A2), LadyBird\_74 (A2), Larenn\_68 (A2), Leogania\_70 (A2), Leviathan\_72 (A2), LiITurb\_71 (A2), Lokk\_65 (A2), Loser\_72 (A2), Lucivia\_70 (A11), MaCh\_69 (A11), Mabel\_69 (A11), Malec\_69 (A2), MiculUcigas\_71 (A2), Miko\_65 (A2), Mulciber\_68 (A11), Munch\_69 (A11), NaSiaTalie\_71 (A2), Naji\_74 (A2), Odin\_71 (A2), Orange\_68 (A11), Petersenfast\_67 (A11), Phlei\_58 (A13), Piro94\_70 (A2), Pomar16\_73 (A2), Power\_70 (A2), QueenB2\_69 (A2), QueenBeesly\_71 (A2), Rachaly\_67 (A2), RedRock\_70 (A2), Retro23\_71 (A2), Salz\_68 (A11), SemperFi\_71 (A2), Sham4\_69 (A11), Smeagan\_73 (A2), SmellyB\_71 (A6), SnapTap\_70 (A2), Snape\_69 (A11), StarStuff\_74 (A2), Superchunk\_72 (A2), SweetiePie\_70 (A2), TarsusIV\_68 (A2), Timothy\_69 (A11), TipsytheTRex\_70 (A2), Tomathan\_74 (A2), Trooper\_70 (A2), Turbido\_71 (A2), Updawg\_71 (A2), VA6\_70 (A2), VC3\_73 (A2), VohminGhazi\_71 (A6), WeiHuaDA\_71 (A2), Whabigail7\_71 (A2), WideWale\_71 (A2),

Start 59:

- Found in 2 of 337 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Changeling\_69 (A2),

Start 64:

- Found in 43 of 337 ( 12.8% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 4.7% of time when present
- Phage (with cluster) where this start called: Groundhog\_78 (A8), Iwokeuplikedis\_71 (A2),

### Summary by clusters:

There are 17 clusters represented in this pham: A15, A14, A17, A16, A11, A, A13, A12, A18, A20, A3, A2, A5, A7, A6, A9, A8,

Info for manual annotations of cluster A:

- Start number 51 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A11:

- Start number 58 was manually annotated 21 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 28 was manually annotated 1 time for cluster A12.
- Start number 29 was manually annotated 3 times for cluster A12.

- Start number 54 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A14:

- Start number 51 was manually annotated 3 times for cluster A14.
- Start number 53 was manually annotated 1 time for cluster A14.

Info for manual annotations of cluster A15:

- Start number 42 was manually annotated 21 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 30 was manually annotated 1 time for cluster A16.
- Start number 50 was manually annotated 2 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 36 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:

- Start number 38 was manually annotated 7 times for cluster A2.
- Start number 42 was manually annotated 5 times for cluster A2.
- Start number 45 was manually annotated 1 time for cluster A2.
- Start number 48 was manually annotated 5 times for cluster A2.
- Start number 58 was manually annotated 79 times for cluster A2.
- Start number 59 was manually annotated 1 time for cluster A2.
- Start number 64 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A20:

- Start number 42 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 33 was manually annotated 25 times for cluster A3.
- Start number 37 was manually annotated 1 time for cluster A3.
- Start number 55 was manually annotated 9 times for cluster A3.

Info for manual annotations of cluster A5:

- Start number 50 was manually annotated 35 times for cluster A5.
- Start number 57 was manually annotated 2 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 42 was manually annotated 18 times for cluster A6.
- Start number 48 was manually annotated 13 times for cluster A6.
- Start number 58 was manually annotated 8 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 19 was manually annotated 1 time for cluster A7.
- Start number 36 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster A8:

- Start number 55 was manually annotated 10 times for cluster A8.
- Start number 64 was manually annotated 1 time for cluster A8.

Info for manual annotations of cluster A9:

- Start number 34 was manually annotated 1 time for cluster A9.
- Start number 37 was manually annotated 1 time for cluster A9.
- Start number 39 was manually annotated 1 time for cluster A9.
- Start number 41 was manually annotated 1 time for cluster A9.
- Start number 42 was manually annotated 5 times for cluster A9.
- Start number 44 was manually annotated 21 times for cluster A9.
- Start number 49 was manually annotated 1 time for cluster A9.
- Start number 52 was manually annotated 1 time for cluster A9.

### **Gene Information:**

Gene: 20ES\_72 Start: 43073, Stop: 42834, Start Num: 58

Candidate Starts for 20ES\_72:

(Start: 38 @43112 has 7 MA's), (Start: 58 @43073 has 108 MA's), (71, 42998), (76, 42965), (85, 42932), (87, 42923), (89, 42911), (99, 42854),

Gene: 40AC\_70 Start: 43765, Stop: 43523, Start Num: 58

Candidate Starts for 40AC\_70:

(Start: 58 @43765 has 108 MA's), (69, 43696), (71, 43687), (76, 43654), (85, 43621), (87, 43612), (89, 43600),

Gene: AN3\_72 Start: 41788, Stop: 41549, Start Num: 58

Candidate Starts for AN3\_72:

(Start: 38 @41827 has 7 MA's), (Start: 58 @41788 has 108 MA's), (Start: 64 @41761 has 2 MA's), (71, 41713), (76, 41680), (85, 41647), (87, 41638), (89, 41626), (99, 41569),

Gene: AN9\_74 Start: 43176, Stop: 42916, Start Num: 58

Candidate Starts for AN9\_74:

(Start: 58 @43176 has 108 MA's), (71, 43071), (76, 43038), (85, 43005), (89, 42984), (90, 42978), (98, 42930), (100, 42927),

Gene: ANI8\_74 Start: 43176, Stop: 42916, Start Num: 58

Candidate Starts for ANI8\_74:

(Start: 58 @43176 has 108 MA's), (71, 43071), (76, 43038), (85, 43005), (89, 42984), (90, 42978), (98, 42930), (100, 42927),

Gene: AbbyPaige\_72 Start: 43323, Stop: 43084, Start Num: 58

Candidate Starts for AbbyPaige\_72:

(17, 43485), (Start: 38 @43362 has 7 MA's), (Start: 58 @43323 has 108 MA's), (71, 43248), (76, 43215), (85, 43182), (87, 43173), (89, 43161),

Gene: Acolyte\_62 Start: 41272, Stop: 41048, Start Num: 58

Candidate Starts for Acolyte\_62:

(Start: 38 @41311 has 7 MA's), (Start: 58 @41272 has 108 MA's), (71, 41200), (76, 41167), (85, 41134), (87, 41125), (89, 41113),

Gene: Adzzy\_74 Start: 41977, Stop: 41702, Start Num: 42

Candidate Starts for Adzzy\_74:

(Start: 42 @41977 has 50 MA's), (47, 41968), (Start: 64 @41908 has 2 MA's), (69, 41869), (76, 41827), (78, 41818), (85, 41794), (89, 41773),

Gene: Agape74\_72 Start: 43317, Stop: 43078, Start Num: 58

Candidate Starts for Agape74\_72:

(Start: 38 @43356 has 7 MA's), (Start: 58 @43317 has 108 MA's), (71, 43242), (76, 43209), (85, 43176), (87, 43167), (89, 43155),

Gene: AgentM\_65 Start: 41621, Stop: 41370, Start Num: 50

Candidate Starts for AgentM\_65:

(Start: 50 @41621 has 37 MA's), (71, 41528), (72, 41513), (87, 41450), (93, 41405), (98, 41384), (100, 41378),

Gene: Airmid\_68 Start: 42454, Stop: 42200, Start Num: 50

Candidate Starts for Airmid\_68:

(Start: 50 @42454 has 37 MA's), (71, 42361), (72, 42346), (87, 42283), (93, 42238), (98, 42217), (100, 42211),

Gene: Aliter\_74 Start: 42621, Stop: 42343, Start Num: 44

Candidate Starts for Aliter\_74:

(Start: 44 @42621 has 21 MA's), (70, 42513), (79, 42459), (80, 42450), (89, 42420),

Gene: Alma\_71 Start: 42598, Stop: 42323, Start Num: 44

Candidate Starts for Alma\_71:

(Start: 44 @42598 has 21 MA's), (70, 42490), (79, 42436), (80, 42427), (89, 42397),

Gene: Anaysia\_80 Start: 43699, Stop: 43421, Start Num: 42

Candidate Starts for Anaysia\_80:

(21, 43759), (Start: 42 @43699 has 50 MA's), (66, 43621), (71, 43582), (76, 43549), (84, 43519), (85, 43516), (89, 43495), (94, 43462),

Gene: Aneem\_70 Start: 42035, Stop: 41769, Start Num: 58

Candidate Starts for Aneem\_70:

(Start: 58 @42035 has 108 MA's), (70, 41942), (76, 41903), (85, 41870), (87, 41861), (89, 41849), (93, 41816),

Gene: AnnaL29\_70 Start: 43273, Stop: 43034, Start Num: 58

Candidate Starts for AnnaL29\_70:

(Start: 38 @43312 has 7 MA's), (Start: 58 @43273 has 108 MA's), (69, 43207), (71, 43198), (76, 43165), (85, 43132), (87, 43123), (89, 43111),

Gene: Anon\_77 Start: 43390, Stop: 43115, Start Num: 42

Candidate Starts for Anon\_77:

(Start: 42 @43390 has 50 MA's), (63, 43324), (71, 43273), (72, 43258), (78, 43231), (84, 43210), (85, 43207), (95, 43147),

Gene: Anselm\_72 Start: 43506, Stop: 43228, Start Num: 38

Candidate Starts for Anselm\_72:

(Start: 38 @43506 has 7 MA's), (Start: 58 @43467 has 108 MA's), (70, 43398), (71, 43392), (76, 43359), (85, 43326), (87, 43317), (89, 43305), (99, 43248),

Gene: Anthony\_63 Start: 40063, Stop: 39797, Start Num: 42

Candidate Starts for Anthony\_63:

(Start: 42 @40063 has 50 MA's), (76, 39925), (78, 39916), (79, 39910), (91, 39859),

Gene: Anubis\_75 Start: 42328, Stop: 42020, Start Num: 33

Candidate Starts for Anubis\_75:

(Start: 33 @42328 has 25 MA's), (Start: 37 @42310 has 2 MA's), (46, 42295), (Start: 55 @42274 has 19 MA's), (62, 42241), (69, 42190), (71, 42181), (74, 42154), (76, 42148), (85, 42115),

Gene: Aragog\_65 Start: 41641, Stop: 41390, Start Num: 50

Candidate Starts for Aragog\_65:

(Start: 50 @41641 has 37 MA's), (71, 41548), (72, 41533), (87, 41470), (93, 41425), (98, 41404), (100, 41398),

Gene: ArcherNM\_64 Start: 42544, Stop: 42302, Start Num: 58

Candidate Starts for ArcherNM\_64:

(23, 42646), (Start: 38 @42583 has 7 MA's), (Start: 58 @42544 has 108 MA's), (69, 42475), (71, 42466), (76, 42433), (85, 42400), (87, 42391), (89, 42379),

Gene: Archetta\_63 Start: 41587, Stop: 41336, Start Num: 50

Candidate Starts for Archetta\_63:

(Start: 50 @41587 has 37 MA's), (Start: 57 @41575 has 2 MA's), (69, 41503), (71, 41494), (72, 41479), (87, 41416), (93, 41371), (98, 41350), (100, 41344),

Gene: Arissanae\_70 Start: 42870, Stop: 42583, Start Num: 37

Candidate Starts for Arissanae\_70:

(Start: 37 @42870 has 2 MA's), (43, 42861), (76, 42723), (86, 42684), (89, 42669),

Gene: Artemis2UCLA\_72 Start: 41385, Stop: 41128, Start Num: 42

Candidate Starts for Artemis2UCLA\_72:

(Start: 42 @41385 has 50 MA's), (47, 41376), (69, 41301), (71, 41292), (76, 41259), (84, 41229), (87, 41217), (101, 41136),

Gene: Astro\_80 Start: 44089, Stop: 43805, Start Num: 55

Candidate Starts for Astro\_80:

(Start: 55 @44089 has 19 MA's), (Start: 64 @44047 has 2 MA's), (70, 44005), (71, 43999), (92, 43891),

Gene: BABullseye\_64 Start: 38991, Stop: 38743, Start Num: 48

Candidate Starts for BABullseye\_64:

(7, 39231), (12, 39159), (22, 39078), (31, 39033), (Start: 48 @38991 has 18 MA's), (69, 38916), (76, 38874), (84, 38844), (87, 38832),

Gene: BabyBack\_65 Start: 43084, Stop: 42833, Start Num: 42

Candidate Starts for BabyBack\_65:

(Start: 42 @43084 has 50 MA's), (47, 43075), (67, 43033), (71, 42997), (76, 42964), (85, 42931), (87, 42922), (89, 42910),

Gene: Bachome\_71 Start: 42031, Stop: 41765, Start Num: 58

Candidate Starts for Bachome\_71:

(Start: 58 @42031 has 108 MA's), (70, 41938), (76, 41899), (85, 41866), (87, 41857), (89, 41845), (93, 41812),

Gene: Baehexic\_69 Start: 42795, Stop: 42556, Start Num: 58

Candidate Starts for Baehexic\_69:

(Start: 58 @42795 has 108 MA's), (Start: 64 @42768 has 2 MA's), (65, 42765), (71, 42720), (76, 42687), (85, 42654), (87, 42645), (89, 42633),



Gene: Battleship\_82 Start: 43572, Stop: 43294, Start Num: 42

Candidate Starts for Battleship\_82:

(21, 43632), (Start: 42 @43572 has 50 MA's), (66, 43494), (71, 43455), (76, 43422), (84, 43392), (85, 43389), (89, 43368), (94, 43335),

Gene: Beauxregard13\_71 Start: 42445, Stop: 42137, Start Num: 33

Candidate Starts for Beauxregard13\_71:

(Start: 33 @42445 has 25 MA's), (Start: 37 @42427 has 2 MA's), (46, 42412), (Start: 55 @42391 has 19 MA's), (62, 42358), (69, 42307), (71, 42298), (74, 42271), (76, 42265), (85, 42232),

Gene: Beemo\_73 Start: 42639, Stop: 42361, Start Num: 44

Candidate Starts for Beemo\_73:

(Start: 44 @42639 has 21 MA's), (70, 42531), (79, 42477), (80, 42468), (89, 42438),

Gene: Benedict\_69 Start: 42186, Stop: 41932, Start Num: 50

Candidate Starts for Benedict\_69:

(Start: 50 @42186 has 37 MA's), (71, 42093), (72, 42078), (87, 42015), (93, 41970), (98, 41949), (100, 41943),

Gene: BengiVuitton\_70 Start: 43050, Stop: 42811, Start Num: 58

Candidate Starts for BengiVuitton\_70:

(Start: 38 @43089 has 7 MA's), (Start: 58 @43050 has 108 MA's), (Start: 64 @43023 has 2 MA's), (71, 42975), (76, 42942), (85, 42909), (87, 42900), (89, 42888), (99, 42831),

Gene: Benvolio\_68 Start: 42707, Stop: 42468, Start Num: 58

Candidate Starts for Benvolio\_68:

(Start: 38 @42746 has 7 MA's), (Start: 58 @42707 has 108 MA's), (69, 42641), (71, 42632), (76, 42599), (85, 42566), (87, 42557), (89, 42545),

Gene: BiancaTri92\_70 Start: 43252, Stop: 43013, Start Num: 58

Candidate Starts for BiancaTri92\_70:

(Start: 38 @43291 has 7 MA's), (Start: 58 @43252 has 108 MA's), (71, 43177), (76, 43144), (85, 43111), (87, 43102), (89, 43090),

Gene: Blinn1\_75 Start: 41595, Stop: 41347, Start Num: 48

Candidate Starts for Blinn1\_75:

(31, 41637), (Start: 48 @41595 has 18 MA's), (76, 41478), (85, 41445), (87, 41436), (89, 41424), (102, 41352),

Gene: Blue7\_74 Start: 41605, Stop: 41348, Start Num: 42

Candidate Starts for Blue7\_74:

(Start: 42 @41605 has 50 MA's), (47, 41596), (69, 41521), (71, 41512), (76, 41479), (84, 41449), (87, 41437),

Gene: Bluefalcon\_61 Start: 41607, Stop: 41356, Start Num: 50

Candidate Starts for Bluefalcon\_61:

(Start: 50 @41607 has 37 MA's), (Start: 57 @41595 has 2 MA's), (69, 41523), (71, 41514), (72, 41499), (87, 41436), (93, 41391), (98, 41370), (100, 41364),

Gene: BobSwaget\_64 Start: 41129, Stop: 40887, Start Num: 58

Candidate Starts for BobSwaget\_64:

(Start: 38 @41168 has 7 MA's), (Start: 58 @41129 has 108 MA's), (71, 41054), (76, 41021), (85, 40988), (87, 40979),

Gene: BogosyJay\_73 Start: 42852, Stop: 42568, Start Num: 42  
Candidate Starts for BogosyJay\_73:  
(Start: 42 @42852 has 50 MA's), (70, 42741), (76, 42702), (89, 42648),

Gene: Bonamassa\_65 Start: 41816, Stop: 41565, Start Num: 50  
Candidate Starts for Bonamassa\_65:  
(Start: 50 @41816 has 37 MA's), (69, 41732), (71, 41723), (72, 41708), (87, 41645), (93, 41600), (98, 41579),

Gene: Boohoo\_80 Start: 43699, Stop: 43421, Start Num: 42  
Candidate Starts for Boohoo\_80:  
(21, 43759), (Start: 42 @43699 has 50 MA's), (66, 43621), (71, 43582), (76, 43549), (84, 43519), (85, 43516), (89, 43495), (94, 43462),

Gene: Bowtie\_70 Start: 42042, Stop: 41776, Start Num: 58  
Candidate Starts for Bowtie\_70:  
(Start: 58 @42042 has 108 MA's), (70, 41949), (76, 41910), (85, 41877), (87, 41868), (89, 41856), (93, 41823),

Gene: Bud\_68 Start: 41589, Stop: 41323, Start Num: 58  
Candidate Starts for Bud\_68:  
(Start: 58 @41589 has 108 MA's), (70, 41496), (76, 41457), (85, 41424), (87, 41415), (89, 41403), (93, 41370),

Gene: Buggy\_72 Start: 43370, Stop: 43131, Start Num: 58  
Candidate Starts for Buggy\_72:  
(Start: 38 @43409 has 7 MA's), (Start: 58 @43370 has 108 MA's), (71, 43295), (76, 43262), (85, 43229), (87, 43220), (89, 43208),

Gene: BuzzBuzz\_66 Start: 42469, Stop: 42161, Start Num: 33  
Candidate Starts for BuzzBuzz\_66:  
(6, 42676), (Start: 33 @42469 has 25 MA's), (35, 42457), (Start: 37 @42451 has 2 MA's), (46, 42436), (Start: 55 @42415 has 19 MA's), (62, 42382), (69, 42331), (71, 42322), (74, 42295), (76, 42289), (85, 42256),

Gene: Bxz2\_67 Start: 42422, Stop: 42168, Start Num: 55  
Candidate Starts for Bxz2\_67:  
(Start: 33 @42476 has 25 MA's), (Start: 37 @42458 has 2 MA's), (46, 42443), (Start: 55 @42422 has 19 MA's), (62, 42389), (69, 42338), (71, 42329), (74, 42302), (76, 42296), (85, 42263),

Gene: C3\_67 Start: 43176, Stop: 42916, Start Num: 58  
Candidate Starts for C3\_67:  
(Start: 58 @43176 has 108 MA's), (71, 43071), (76, 43038), (85, 43005), (89, 42984), (98, 42930), (100, 42927),

Gene: CRB1\_72 Start: 43596, Stop: 43357, Start Num: 58  
Candidate Starts for CRB1\_72:  
(Start: 38 @43635 has 7 MA's), (Start: 58 @43596 has 108 MA's), (71, 43521), (76, 43488), (85, 43455), (87, 43446), (89, 43434), (99, 43377),

Gene: Candra\_69 Start: 41351, Stop: 41112, Start Num: 58  
Candidate Starts for Candra\_69:

(Start: 58 @41351 has 108 MA's), (71, 41276), (76, 41243), (85, 41210), (87, 41201),

Gene: Caraxes\_73 Start: 41714, Stop: 41472, Start Num: 58

Candidate Starts for Caraxes\_73:

(Start: 58 @41714 has 108 MA's), (72, 41615), (75, 41600), (76, 41597), (77, 41591), (78, 41588), (85, 41564), (89, 41543),

Gene: Catalina\_75 Start: 42695, Stop: 42417, Start Num: 44

Candidate Starts for Catalina\_75:

(Start: 44 @42695 has 21 MA's), (70, 42587), (79, 42533), (80, 42524), (89, 42494),

Gene: Centaur\_71 Start: 43010, Stop: 42771, Start Num: 58

Candidate Starts for Centaur\_71:

(Start: 58 @43010 has 108 MA's), (Start: 64 @42983 has 2 MA's), (65, 42980), (71, 42935), (76, 42902), (85, 42869), (87, 42860), (89, 42848),

Gene: Chadwick\_69 Start: 41930, Stop: 41679, Start Num: 50

Candidate Starts for Chadwick\_69:

(Start: 50 @41930 has 37 MA's), (71, 41837), (72, 41822), (87, 41759), (93, 41714), (98, 41693),

Gene: Changeling\_69 Start: 43249, Stop: 43010, Start Num: 59

Candidate Starts for Changeling\_69:

(Start: 38 @43291 has 7 MA's), (Start: 58 @43252 has 108 MA's), (Start: 59 @43249 has 1 MA's), (68, 43207), (69, 43183), (71, 43174), (76, 43141), (85, 43108), (87, 43099), (89, 43087),

Gene: Chargerpower\_67 Start: 40705, Stop: 40445, Start Num: 51

Candidate Starts for Chargerpower\_67:

(40, 40726), (Start: 51 @40705 has 4 MA's), (70, 40612), (79, 40558), (80, 40549), (89, 40519), (96, 40471), (97, 40468), (98, 40465),

Gene: Charm\_67 Start: 41703, Stop: 41416, Start Num: 42

Candidate Starts for Charm\_67:

(Start: 42 @41703 has 50 MA's), (70, 41598), (76, 41559), (89, 41505),

Gene: Chartreuse\_68 Start: 40662, Stop: 40423, Start Num: 58

Candidate Starts for Chartreuse\_68:

(Start: 58 @40662 has 108 MA's), (71, 40587), (76, 40554), (85, 40521), (87, 40512),

Gene: Che12\_74 Start: 41861, Stop: 41586, Start Num: 42

Candidate Starts for Che12\_74:

(1, 42212), (18, 41975), (Start: 42 @41861 has 50 MA's), (47, 41852), (Start: 64 @41792 has 2 MA's), (69, 41753), (76, 41711), (78, 41702), (85, 41678), (89, 41657),

Gene: ChipMunk\_72 Start: 44601, Stop: 44362, Start Num: 58

Candidate Starts for ChipMunk\_72:

(Start: 58 @44601 has 108 MA's), (71, 44526), (76, 44493), (85, 44460), (87, 44451), (89, 44439),

Gene: CloudWang3\_73 Start: 41897, Stop: 41640, Start Num: 42

Candidate Starts for CloudWang3\_73:

(Start: 42 @41897 has 50 MA's), (47, 41888), (69, 41813), (71, 41804), (76, 41771), (84, 41741), (87, 41729), (101, 41648),

Gene: Colbster\_68 Start: 42445, Stop: 42137, Start Num: 33

Candidate Starts for Colbster\_68:

(Start: 33 @42445 has 25 MA's), (Start: 37 @42427 has 2 MA's), (46, 42412), (Start: 55 @42391 has 19 MA's), (62, 42358), (69, 42307), (71, 42298), (74, 42271), (76, 42265), (85, 42232),

Gene: Colin\_69 Start: 43242, Stop: 42997, Start Num: 48

Candidate Starts for Colin\_69:

(Start: 45 @43248 has 1 MA's), (Start: 48 @43242 has 18 MA's), (71, 43161), (76, 43128), (85, 43095), (87, 43086), (89, 43074), (97, 43023),

Gene: Conquerage\_71 Start: 42370, Stop: 42092, Start Num: 44

Candidate Starts for Conquerage\_71:

(Start: 44 @42370 has 21 MA's), (70, 42262), (79, 42208), (80, 42199), (89, 42169),

Gene: Conspiracy\_66 Start: 41863, Stop: 41612, Start Num: 50

Candidate Starts for Conspiracy\_66:

(Start: 50 @41863 has 37 MA's), (71, 41770), (72, 41755), (87, 41692), (93, 41647), (98, 41626), (100, 41620),

Gene: Coog\_62 Start: 41634, Stop: 41383, Start Num: 50

Candidate Starts for Coog\_62:

(Start: 50 @41634 has 37 MA's), (Start: 57 @41622 has 2 MA's), (71, 41541), (72, 41526), (87, 41463), (93, 41418), (98, 41397), (100, 41391),

Gene: Cookiedough\_71 Start: 41299, Stop: 41051, Start Num: 48

Candidate Starts for Cookiedough\_71:

(7, 41539), (12, 41467), (22, 41386), (31, 41341), (Start: 48 @41299 has 18 MA's), (69, 41224), (76, 41182), (84, 41152), (87, 41140),

Gene: Crucio\_71 Start: 43367, Stop: 43128, Start Num: 58

Candidate Starts for Crucio\_71:

(Start: 38 @43406 has 7 MA's), (Start: 58 @43367 has 108 MA's), (71, 43292), (76, 43259), (85, 43226), (87, 43217), (89, 43205), (99, 43148),

Gene: Cuco\_64 Start: 41482, Stop: 41243, Start Num: 57

Candidate Starts for Cuco\_64:

(Start: 50 @41494 has 37 MA's), (Start: 57 @41482 has 2 MA's), (71, 41401), (72, 41386), (87, 41323), (93, 41278), (98, 41257), (100, 41251),

Gene: Cullens\_72 Start: 42441, Stop: 42133, Start Num: 33

Candidate Starts for Cullens\_72:

(Start: 33 @42441 has 25 MA's), (Start: 37 @42423 has 2 MA's), (46, 42408), (Start: 55 @42387 has 19 MA's), (62, 42354), (69, 42303), (71, 42294), (74, 42267), (76, 42261), (85, 42228),

Gene: D29\_68 Start: 43721, Stop: 43488, Start Num: 58

Candidate Starts for D29\_68:

(Start: 58 @43721 has 108 MA's), (71, 43643), (76, 43610), (85, 43577), (89, 43556), (98, 43502),

Gene: D32\_73 Start: 43721, Stop: 43488, Start Num: 58

Candidate Starts for D32\_73:

(Start: 58 @43721 has 108 MA's), (71, 43643), (76, 43610), (85, 43577), (89, 43556), (98, 43502),

Gene: DBQu4n\_74 Start: 43701, Stop: 43468, Start Num: 58

Candidate Starts for DBQu4n\_74:

(Start: 58 @43701 has 108 MA's), (71, 43623), (76, 43590), (85, 43557), (89, 43536), (98, 43482),

Gene: DaVinci\_69 Start: 40716, Stop: 40477, Start Num: 58

Candidate Starts for DaVinci\_69:

(Start: 58 @40716 has 108 MA's), (71, 40641), (76, 40608), (85, 40575), (87, 40566),

Gene: Dalmatian\_71 Start: 43225, Stop: 42947, Start Num: 38

Candidate Starts for Dalmatian\_71:

(Start: 38 @43225 has 7 MA's), (Start: 58 @43186 has 108 MA's), (71, 43111), (76, 43078), (85, 43045), (87, 43036), (89, 43024), (99, 42967),

Gene: Danforth\_81 Start: 44166, Stop: 43882, Start Num: 55

Candidate Starts for Danforth\_81:

(Start: 55 @44166 has 19 MA's), (Start: 64 @44124 has 2 MA's), (70, 44082), (71, 44076), (92, 43968),

Gene: DarthPhader\_68 Start: 43667, Stop: 43356, Start Num: 29

Candidate Starts for DarthPhader\_68:

(8, 43808), (Start: 28 @43670 has 1 MA's), (Start: 29 @43667 has 3 MA's), (Start: 54 @43619 has 1 MA's), (Start: 64 @43568 has 2 MA's), (69, 43529), (71, 43520), (76, 43487), (97, 43382),

Gene: DekHockey33\_81 Start: 43657, Stop: 43379, Start Num: 42

Candidate Starts for DekHockey33\_81:

(21, 43717), (Start: 42 @43657 has 50 MA's), (66, 43579), (71, 43540), (76, 43507), (84, 43477), (85, 43474), (89, 43453), (94, 43420),

Gene: Deloris\_70 Start: 42746, Stop: 42507, Start Num: 58

Candidate Starts for Deloris\_70:

(Start: 38 @42785 has 7 MA's), (Start: 58 @42746 has 108 MA's), (Start: 64 @42719 has 2 MA's), (71, 42671), (76, 42638), (85, 42605), (87, 42596), (89, 42584), (99, 42527),

Gene: Dignity\_72 Start: 43408, Stop: 43169, Start Num: 58

Candidate Starts for Dignity\_72:

(Start: 38 @43447 has 7 MA's), (Start: 58 @43408 has 108 MA's), (71, 43333), (76, 43300), (85, 43267), (87, 43258), (89, 43246),

Gene: Discoknowium\_63 Start: 41380, Stop: 41129, Start Num: 50

Candidate Starts for Discoknowium\_63:

(Start: 50 @41380 has 37 MA's), (71, 41287), (72, 41272), (87, 41209), (93, 41164), (98, 41143), (100, 41137),

Gene: Dixon\_79 Start: 43648, Stop: 43364, Start Num: 55

Candidate Starts for Dixon\_79:

(Start: 55 @43648 has 19 MA's), (Start: 64 @43606 has 2 MA's), (70, 43564), (71, 43558), (92, 43450),

Gene: Dorothea\_68 Start: 41297, Stop: 41049, Start Num: 48

Candidate Starts for Dorothea\_68:

(7, 41537), (12, 41465), (22, 41384), (31, 41339), (Start: 48 @41297 has 18 MA's), (69, 41222), (76, 41180), (84, 41150), (87, 41138),

Gene: Drake55\_72 Start: 43111, Stop: 42872, Start Num: 58

Candidate Starts for Drake55\_72:

(Start: 58 @43111 has 108 MA's), (Start: 64 @43084 has 2 MA's), (65, 43081), (71, 43036), (76, 43003), (85, 42970), (87, 42961), (89, 42949),

Gene: DreamTeam1\_67 Start: 41535, Stop: 41248, Start Num: 39

Candidate Starts for DreamTeam1\_67:

(Start: 39 @41535 has 1 MA's), (69, 41421), (70, 41418), (79, 41364), (80, 41355), (89, 41325),

Gene: Dublin\_65 Start: 41773, Stop: 41522, Start Num: 50

Candidate Starts for Dublin\_65:

(Start: 50 @41773 has 37 MA's), (69, 41689), (71, 41680), (72, 41665), (87, 41602), (93, 41557), (98, 41536),

Gene: DudeLittle\_69 Start: 42991, Stop: 42713, Start Num: 38

Candidate Starts for DudeLittle\_69:

(Start: 38 @42991 has 7 MA's), (Start: 58 @42952 has 108 MA's), (71, 42877), (76, 42844), (85, 42811), (87, 42802), (89, 42790), (99, 42733),

Gene: Duplo\_74 Start: 43758, Stop: 43525, Start Num: 58

Candidate Starts for Duplo\_74:

(Start: 58 @43758 has 108 MA's), (71, 43680), (76, 43647), (85, 43614), (89, 43593), (98, 43539),

Gene: EZMoney23\_67 Start: 42794, Stop: 42552, Start Num: 58

Candidate Starts for EZMoney23\_67:

(Start: 38 @42833 has 7 MA's), (Start: 58 @42794 has 108 MA's), (Start: 59 @42791 has 1 MA's), (68, 42749), (69, 42725), (71, 42716), (76, 42683), (85, 42650), (87, 42641), (89, 42629),

Gene: EagleEye\_76 Start: 43298, Stop: 43038, Start Num: 50

Candidate Starts for EagleEye\_76:

(15, 43454), (25, 43364), (Start: 28 @43346 has 1 MA's), (Start: 30 @43340 has 1 MA's), (Start: 50 @43298 has 37 MA's), (75, 43160), (89, 43103),

Gene: Ebony\_69 Start: 41606, Stop: 41340, Start Num: 58

Candidate Starts for Ebony\_69:

(Start: 58 @41606 has 108 MA's), (70, 41513), (76, 41474), (85, 41441), (87, 41432), (89, 41420), (93, 41387),

Gene: Echild\_71 Start: 42731, Stop: 42492, Start Num: 58

Candidate Starts for Echild\_71:

(Start: 38 @42770 has 7 MA's), (Start: 58 @42731 has 108 MA's), (69, 42665), (71, 42656), (76, 42623), (85, 42590), (87, 42581), (89, 42569),

Gene: Eidsmoe\_71 Start: 42362, Stop: 42084, Start Num: 44

Candidate Starts for Eidsmoe\_71:

(Start: 44 @42362 has 21 MA's), (70, 42254), (79, 42200), (80, 42191), (89, 42161),

Gene: EITiger69\_71 Start: 42857, Stop: 42603, Start Num: 50

Candidate Starts for EITiger69\_71:

(Start: 50 @42857 has 37 MA's), (71, 42764), (72, 42749), (87, 42686), (93, 42641), (98, 42620), (100, 42614),

Gene: Elephantoon\_73 Start: 42479, Stop: 42192, Start Num: 44

Candidate Starts for Elephantoon\_73:

(Start: 44 @42479 has 21 MA's), (47, 42473), (Start: 64 @42413 has 2 MA's), (70, 42371), (76, 42332), (89, 42278),

Gene: EmyBug\_67 Start: 42364, Stop: 42086, Start Num: 44

Candidate Starts for EmyBug\_67:

(Start: 44 @42364 has 21 MA's), (70, 42256), (79, 42202), (80, 42193), (89, 42163),

Gene: EpicPhail\_73 Start: 42445, Stop: 42137, Start Num: 33

Candidate Starts for EpicPhail\_73:

(Start: 33 @42445 has 25 MA's), (Start: 37 @42427 has 2 MA's), (46, 42412), (Start: 55 @42391 has 19 MA's), (62, 42358), (69, 42307), (71, 42298), (74, 42271), (76, 42265), (85, 42232),

Gene: Epsocamisio\_76 Start: 42795, Stop: 42517, Start Num: 42

Candidate Starts for Epsocamisio\_76:

(Start: 42 @42795 has 50 MA's), (66, 42717), (71, 42678), (76, 42645), (84, 42615), (85, 42612), (89, 42591), (94, 42558),

Gene: Equemioh13\_70 Start: 42915, Stop: 42676, Start Num: 58

Candidate Starts for Equemioh13\_70:

(Start: 58 @42915 has 108 MA's), (Start: 64 @42888 has 2 MA's), (65, 42885), (71, 42840), (76, 42807), (85, 42774), (87, 42765), (89, 42753),

Gene: EricB\_70 Start: 41308, Stop: 41069, Start Num: 58

Candidate Starts for EricB\_70:

(Start: 58 @41308 has 108 MA's), (71, 41233), (76, 41200), (85, 41167), (87, 41158),

Gene: Et2Brutus\_68 Start: 41569, Stop: 41303, Start Num: 58

Candidate Starts for Et2Brutus\_68:

(Start: 58 @41569 has 108 MA's), (70, 41476), (76, 41437), (85, 41404), (87, 41395), (89, 41383), (93, 41350),

Gene: EvilGenius\_71 Start: 44602, Stop: 44363, Start Num: 58

Candidate Starts for EvilGenius\_71:

(Start: 58 @44602 has 108 MA's), (71, 44527), (76, 44494), (85, 44461), (87, 44452), (89, 44440),

Gene: Expelliarmus\_77 Start: 43862, Stop: 43578, Start Num: 55

Candidate Starts for Expelliarmus\_77:

(Start: 55 @43862 has 19 MA's), (Start: 64 @43820 has 2 MA's), (70, 43778), (71, 43772), (92, 43664),

Gene: ExplosioNervosa\_71 Start: 42430, Stop: 42152, Start Num: 44

Candidate Starts for ExplosioNervosa\_71:

(Start: 44 @42430 has 21 MA's), (70, 42322), (79, 42268), (80, 42259), (89, 42229),

Gene: Fameo\_70 Start: 43185, Stop: 42946, Start Num: 58

Candidate Starts for Fameo\_70:

(Start: 38 @43224 has 7 MA's), (Start: 58 @43185 has 108 MA's), (69, 43119), (71, 43110), (76, 43077), (85, 43044), (87, 43035), (89, 43023), (100, 42963),

Gene: Fayely\_71 Start: 42331, Stop: 42053, Start Num: 44

Candidate Starts for Fayely\_71:

(Start: 44 @42331 has 21 MA's), (70, 42223), (79, 42169), (80, 42160), (89, 42130),

Gene: Fernando\_72 Start: 42441, Stop: 42133, Start Num: 33

Candidate Starts for Fernando\_72:

(Start: 33 @42441 has 25 MA's), (Start: 37 @42423 has 2 MA's), (46, 42408), (Start: 55 @42387 has 19 MA's), (62, 42354), (69, 42303), (71, 42294), (74, 42267), (76, 42261), (85, 42228),

Gene: Fibonacci\_69 Start: 41575, Stop: 41309, Start Num: 58

Candidate Starts for Fibonacci\_69:

(Start: 58 @41575 has 108 MA's), (70, 41482), (76, 41443), (85, 41410), (87, 41401), (89, 41389), (93, 41356),

Gene: FiringLine\_71 Start: 43349, Stop: 43110, Start Num: 58

Candidate Starts for FiringLine\_71:

(Start: 38 @43388 has 7 MA's), (Start: 58 @43349 has 108 MA's), (71, 43274), (76, 43241), (85, 43208), (87, 43199), (89, 43187), (99, 43130),

Gene: First\_0071 Start: 42973, Stop: 42734, Start Num: 58

Candidate Starts for First\_0071:

(Start: 38 @43012 has 7 MA's), (Start: 58 @42973 has 108 MA's), (71, 42898), (76, 42865), (85, 42832), (87, 42823), (89, 42811), (99, 42754),

Gene: Flare16\_71 Start: 43054, Stop: 42815, Start Num: 58

Candidate Starts for Flare16\_71:

(Start: 38 @43093 has 7 MA's), (Start: 58 @43054 has 108 MA's), (Start: 64 @43027 has 2 MA's), (65, 43024), (71, 42979), (76, 42946), (85, 42913), (87, 42904), (89, 42892), (99, 42835),

Gene: Flaverint\_70 Start: 42033, Stop: 41767, Start Num: 58

Candidate Starts for Flaverint\_70:

(Start: 58 @42033 has 108 MA's), (70, 41940), (76, 41901), (85, 41868), (87, 41859), (89, 41847), (93, 41814),

Gene: ForGetIt\_66 Start: 41888, Stop: 41637, Start Num: 50

Candidate Starts for ForGetIt\_66:

(Start: 50 @41888 has 37 MA's), (71, 41795), (72, 41780), (87, 41717), (93, 41672), (98, 41651), (100, 41645),

Gene: Gail\_72 Start: 43458, Stop: 43192, Start Num: 53

Candidate Starts for Gail\_72:

(40, 43482), (Start: 51 @43461 has 4 MA's), (Start: 53 @43458 has 1 MA's), (70, 43362), (75, 43326), (76, 43323), (87, 43281), (89, 43269), (97, 43218),

Gene: Garak\_74 Start: 41848, Stop: 41591, Start Num: 42

Candidate Starts for Garak\_74:

(Start: 42 @41848 has 50 MA's), (47, 41839), (69, 41764), (71, 41755), (76, 41722), (84, 41692), (87, 41680),

Gene: GaugeLDP\_66 Start: 42652, Stop: 42401, Start Num: 42

Candidate Starts for GaugeLDP\_66:

(Start: 42 @42652 has 50 MA's), (47, 42643), (65, 42610), (71, 42565), (76, 42532), (85, 42499), (87, 42490), (89, 42478),

Gene: George\_62 Start: 41560, Stop: 41309, Start Num: 50

Candidate Starts for George\_62:

(Start: 50 @41560 has 37 MA's), (71, 41467), (72, 41452), (87, 41389), (93, 41344), (98, 41323),



Gene: Georgie2\_72 Start: 43394, Stop: 43155, Start Num: 58

Candidate Starts for Georgie2\_72:

(Start: 38 @43433 has 7 MA's), (Start: 58 @43394 has 108 MA's), (71, 43319), (76, 43286), (85, 43253), (87, 43244), (89, 43232), (99, 43175),

Gene: Ghouboy\_65 Start: 41861, Stop: 41610, Start Num: 50

Candidate Starts for Ghouboy\_65:

(Start: 50 @41861 has 37 MA's), (Start: 57 @41849 has 2 MA's), (69, 41777), (71, 41768), (72, 41753), (87, 41690), (93, 41645), (98, 41624), (100, 41618),

Gene: Gilberta\_70 Start: 42026, Stop: 41760, Start Num: 58

Candidate Starts for Gilberta\_70:

(Start: 58 @42026 has 108 MA's), (70, 41933), (76, 41894), (85, 41861), (87, 41852), (89, 41840), (93, 41807),

Gene: GingkoMaracino\_72 Start: 42309, Stop: 42019, Start Num: 37

Candidate Starts for GingkoMaracino\_72:

(Start: 33 @42327 has 25 MA's), (Start: 37 @42309 has 2 MA's), (46, 42294), (Start: 55 @42273 has 19 MA's), (62, 42240), (69, 42189), (71, 42180), (74, 42153), (76, 42147), (85, 42114),

Gene: Gladiator\_69 Start: 40925, Stop: 40677, Start Num: 48

Candidate Starts for Gladiator\_69:

(7, 41165), (12, 41093), (22, 41012), (31, 40967), (Start: 48 @40925 has 18 MA's), (69, 40850), (76, 40808), (84, 40778), (87, 40766),

Gene: GreedyLawyer\_68 Start: 41281, Stop: 41042, Start Num: 58

Candidate Starts for GreedyLawyer\_68:

(Start: 58 @41281 has 108 MA's), (71, 41206), (76, 41173), (85, 41140), (87, 41131),

Gene: Grif\_70 Start: 42462, Stop: 42208, Start Num: 55

Candidate Starts for Grif\_70:

(Start: 37 @42498 has 2 MA's), (46, 42483), (Start: 55 @42462 has 19 MA's), (62, 42429), (69, 42378), (71, 42369), (74, 42342), (76, 42336), (85, 42303),

Gene: Groundhog\_78 Start: 43876, Stop: 43634, Start Num: 64

Candidate Starts for Groundhog\_78:

(Start: 55 @43918 has 19 MA's), (Start: 64 @43876 has 2 MA's), (70, 43834), (71, 43828), (92, 43720),

Gene: Grum1\_71 Start: 42441, Stop: 42133, Start Num: 33

Candidate Starts for Grum1\_71:

(Start: 33 @42441 has 25 MA's), (Start: 37 @42423 has 2 MA's), (46, 42408), (Start: 55 @42387 has 19 MA's), (62, 42354), (69, 42303), (71, 42294), (74, 42267), (76, 42261), (85, 42228),

Gene: Gruunaga\_72 Start: 41706, Stop: 41449, Start Num: 42

Candidate Starts for Gruunaga\_72:

(Start: 42 @41706 has 50 MA's), (47, 41697), (69, 41622), (71, 41613), (76, 41580), (84, 41550), (87, 41538), (101, 41457),

Gene: GtownJaz\_72 Start: 42389, Stop: 42135, Start Num: 55

Candidate Starts for GtownJaz\_72:

(Start: 37 @42425 has 2 MA's), (46, 42410), (Start: 55 @42389 has 19 MA's), (62, 42356), (69, 42305), (71, 42296), (74, 42269), (76, 42263), (85, 42230),

Gene: HINdeR\_66 Start: 44898, Stop: 44536, Start Num: 19

Candidate Starts for HINdeR\_66:

(Start: 19 @44898 has 1 MA's), (26, 44865), (Start: 36 @44826 has 2 MA's), (Start: 64 @44745 has 2 MA's), (69, 44706), (71, 44697), (79, 44649), (83, 44634), (85, 44631), (89, 44610), (97, 44559), (101, 44541),

Gene: Hammer\_73 Start: 41413, Stop: 41156, Start Num: 42

Candidate Starts for Hammer\_73:

(Start: 42 @41413 has 50 MA's), (47, 41404), (69, 41329), (71, 41320), (76, 41287), (84, 41257), (87, 41245),

Gene: HarryHoudini\_71 Start: 43112, Stop: 42873, Start Num: 58

Candidate Starts for HarryHoudini\_71:

(Start: 58 @43112 has 108 MA's), (Start: 64 @43085 has 2 MA's), (65, 43082), (71, 43037), (76, 43004), (85, 42971), (87, 42962), (89, 42950),

Gene: HashRod\_73 Start: 42415, Stop: 42161, Start Num: 55

Candidate Starts for HashRod\_73:

(Start: 33 @42469 has 25 MA's), (Start: 37 @42451 has 2 MA's), (46, 42436), (Start: 55 @42415 has 19 MA's), (62, 42382), (69, 42331), (71, 42322), (74, 42295), (76, 42289), (85, 42256),

Gene: Heffalump\_69 Start: 43653, Stop: 43414, Start Num: 58

Candidate Starts for Heffalump\_69:

(Start: 58 @43653 has 108 MA's), (69, 43587), (71, 43578), (76, 43545), (85, 43512), (87, 43503), (89, 43491), (100, 43431),

Gene: Helmet\_74 Start: 41848, Stop: 41591, Start Num: 42

Candidate Starts for Helmet\_74:

(Start: 42 @41848 has 50 MA's), (47, 41839), (69, 41764), (71, 41755), (76, 41722), (84, 41692), (87, 41680),

Gene: Herbertwm\_67 Start: 42568, Stop: 42287, Start Num: 38

Candidate Starts for Herbertwm\_67:

(Start: 38 @42568 has 7 MA's), (Start: 58 @42529 has 108 MA's), (Start: 64 @42496 has 2 MA's), (69, 42457), (79, 42400), (84, 42385), (102, 42292),

Gene: Hercules11\_72 Start: 42450, Stop: 42142, Start Num: 33

Candidate Starts for Hercules11\_72:

(Start: 33 @42450 has 25 MA's), (Start: 37 @42432 has 2 MA's), (46, 42417), (Start: 55 @42396 has 19 MA's), (62, 42363), (69, 42312), (71, 42303), (74, 42276), (76, 42270), (85, 42237),

Gene: Hexamo\_72 Start: 41382, Stop: 41125, Start Num: 42

Candidate Starts for Hexamo\_72:

(Start: 42 @41382 has 50 MA's), (47, 41373), (69, 41298), (71, 41289), (76, 41256), (84, 41226), (87, 41214), (101, 41133),

Gene: Hoot\_66 Start: 39166, Stop: 38927, Start Num: 58

Candidate Starts for Hoot\_66:

(Start: 58 @39166 has 108 MA's), (71, 39091), (76, 39058), (85, 39025), (87, 39016),

Gene: HortumSL17\_74 Start: 42693, Stop: 42415, Start Num: 44  
Candidate Starts for HortumSL17\_74:  
(Start: 44 @42693 has 21 MA's), (70, 42585), (79, 42531), (80, 42522), (89, 42492),

Gene: HuhtaEnerson15\_63 Start: 41469, Stop: 41218, Start Num: 50  
Candidate Starts for HuhtaEnerson15\_63:  
(Start: 50 @41469 has 37 MA's), (71, 41376), (72, 41361), (87, 41298), (93, 41253), (98, 41232),

Gene: Hutc2\_68 Start: 41575, Stop: 41309, Start Num: 58  
Candidate Starts for Hutc2\_68:  
(Start: 58 @41575 has 108 MA's), (70, 41482), (76, 41443), (85, 41410), (87, 41401), (89, 41389), (93, 41356),

Gene: Indra\_76 Start: 41849, Stop: 41592, Start Num: 42  
Candidate Starts for Indra\_76:  
(Start: 42 @41849 has 50 MA's), (47, 41840), (69, 41765), (71, 41756), (76, 41723), (84, 41693), (87, 41681),

Gene: IronMan\_68 Start: 43620, Stop: 43360, Start Num: 48  
Candidate Starts for IronMan\_68:  
(12, 43788), (22, 43707), (Start: 48 @43620 has 18 MA's), (71, 43524), (76, 43491), (85, 43458), (87, 43449), (89, 43437),

Gene: Isiphiwo\_69 Start: 40857, Stop: 40609, Start Num: 48  
Candidate Starts for Isiphiwo\_69:  
(7, 41097), (12, 41025), (22, 40944), (31, 40899), (Start: 48 @40857 has 18 MA's), (69, 40782), (76, 40740), (84, 40710), (87, 40698),

Gene: Iwokeuplikedis\_71 Start: 42572, Stop: 42360, Start Num: 64  
Candidate Starts for Iwokeuplikedis\_71:  
(31, 42650), (Start: 48 @42608 has 18 MA's), (Start: 64 @42572 has 2 MA's), (68, 42557), (71, 42524), (76, 42491), (85, 42458), (87, 42449), (89, 42437),

Gene: JSwag\_79 Start: 43080, Stop: 42802, Start Num: 42  
Candidate Starts for JSwag\_79:  
(Start: 42 @43080 has 50 MA's), (66, 43002), (71, 42963), (76, 42930), (84, 42900), (85, 42897), (89, 42876), (94, 42843),

Gene: Jaan\_69 Start: 43788, Stop: 43528, Start Num: 48  
Candidate Starts for Jaan\_69:  
(12, 43956), (22, 43875), (Start: 48 @43788 has 18 MA's), (71, 43692), (76, 43659), (85, 43626), (87, 43617), (89, 43605),

Gene: Jabiru\_67 Start: 42041, Stop: 41787, Start Num: 50  
Candidate Starts for Jabiru\_67:  
(Start: 50 @42041 has 37 MA's), (71, 41948), (72, 41933), (87, 41870), (93, 41825), (98, 41804), (100, 41798),

Gene: Jabith\_70 Start: 42031, Stop: 41765, Start Num: 58  
Candidate Starts for Jabith\_70:  
(3, 42307), (11, 42223), (14, 42211), (Start: 58 @42031 has 108 MA's), (70, 41938), (76, 41899), (85, 41866), (87, 41857), (89, 41845), (93, 41812),

Gene: Jeeves\_74 Start: 42446, Stop: 42174, Start Num: 51

Candidate Starts for Jeeves\_74:

(40, 42467), (Start: 51 @42446 has 4 MA's), (56, 42437), (69, 42347), (70, 42344), (75, 42308), (76, 42305), (87, 42263), (89, 42251), (97, 42200),

Gene: Jeffabunny\_73 Start: 41475, Stop: 41218, Start Num: 42

Candidate Starts for Jeffabunny\_73:

(Start: 42 @41475 has 50 MA's), (47, 41466), (69, 41391), (71, 41382), (76, 41349), (84, 41319), (87, 41307),

Gene: JenCasNa\_73 Start: 42441, Stop: 42133, Start Num: 33

Candidate Starts for JenCasNa\_73:

(Start: 33 @42441 has 25 MA's), (Start: 37 @42423 has 2 MA's), (46, 42408), (Start: 55 @42387 has 19 MA's), (62, 42354), (69, 42303), (71, 42294), (74, 42267), (76, 42261), (85, 42228),

Gene: Jerm\_72 Start: 43390, Stop: 43151, Start Num: 58

Candidate Starts for Jerm\_72:

(Start: 38 @43429 has 7 MA's), (Start: 58 @43390 has 108 MA's), (71, 43315), (76, 43282), (85, 43249), (87, 43240), (89, 43228),

Gene: JewelBug\_71 Start: 41591, Stop: 41343, Start Num: 48

Candidate Starts for JewelBug\_71:

(7, 41831), (12, 41759), (22, 41678), (31, 41633), (Start: 48 @41591 has 18 MA's), (69, 41516), (76, 41474), (84, 41444), (87, 41432),

Gene: Jordennis\_70 Start: 41072, Stop: 40824, Start Num: 48

Candidate Starts for Jordennis\_70:

(7, 41312), (12, 41240), (22, 41159), (31, 41114), (Start: 48 @41072 has 18 MA's), (69, 40997), (76, 40955), (84, 40925), (87, 40913),

Gene: JoshKayV\_71 Start: 43441, Stop: 43202, Start Num: 58

Candidate Starts for JoshKayV\_71:

(Start: 38 @43480 has 7 MA's), (Start: 58 @43441 has 108 MA's), (71, 43366), (76, 43333), (85, 43300), (87, 43291), (89, 43279),

Gene: Journey13\_62 Start: 40039, Stop: 39803, Start Num: 58

Candidate Starts for Journey13\_62:

(32, 40096), (Start: 42 @40072 has 50 MA's), (Start: 58 @40039 has 108 MA's), (69, 39976), (71, 39967), (76, 39934), (85, 39901), (87, 39892), (89, 39880), (101, 39811),

Gene: Jovo\_66 Start: 42144, Stop: 41893, Start Num: 50

Candidate Starts for Jovo\_66:

(Start: 50 @42144 has 37 MA's), (71, 42051), (72, 42036), (87, 41973), (93, 41928), (98, 41907), (100, 41901),

Gene: Jsquared\_74 Start: 42531, Stop: 42292, Start Num: 58

Candidate Starts for Jsquared\_74:

(Start: 58 @42531 has 108 MA's), (68, 42489), (71, 42456), (76, 42423), (85, 42390), (87, 42381), (89, 42369), (97, 42318), (101, 42300),

Gene: Kalpine\_70 Start: 43417, Stop: 43178, Start Num: 58

Candidate Starts for Kalpine\_70:

(Start: 38 @43456 has 7 MA's), (Start: 58 @43417 has 108 MA's), (71, 43342), (76, 43309), (85, 43276), (87, 43267), (89, 43255), (97, 43204),

Gene: KatherineG\_80 Start: 43544, Stop: 43266, Start Num: 42

Candidate Starts for KatherineG\_80:

(21, 43604), (Start: 42 @43544 has 50 MA's), (66, 43466), (71, 43427), (76, 43394), (84, 43364), (85, 43361), (89, 43340), (94, 43307),

Gene: Kazan\_72 Start: 41321, Stop: 41082, Start Num: 58

Candidate Starts for Kazan\_72:

(Start: 58 @41321 has 108 MA's), (71, 41246), (76, 41213), (85, 41180), (87, 41171),

Gene: Kerberos\_74 Start: 43720, Stop: 43487, Start Num: 58

Candidate Starts for Kerberos\_74:

(Start: 58 @43720 has 108 MA's), (71, 43642), (76, 43609), (85, 43576), (89, 43555), (98, 43501),

Gene: Keziacharles14\_69 Start: 43094, Stop: 42822, Start Num: 44

Candidate Starts for Keziacharles14\_69:

(Start: 44 @43094 has 21 MA's), (70, 42989), (76, 42950), (79, 42935), (84, 42920), (89, 42896),

Gene: KingCyrus\_71 Start: 44597, Stop: 44358, Start Num: 58

Candidate Starts for KingCyrus\_71:

(Start: 58 @44597 has 108 MA's), (71, 44522), (76, 44489), (85, 44456), (87, 44447), (89, 44435),

Gene: Kipper29\_71 Start: 41334, Stop: 41095, Start Num: 58

Candidate Starts for Kipper29\_71:

(Start: 58 @41334 has 108 MA's), (71, 41259), (76, 41226), (85, 41193), (87, 41184),

Gene: Koko\_74 Start: 42237, Stop: 41980, Start Num: 42

Candidate Starts for Koko\_74:

(Start: 42 @42237 has 50 MA's), (47, 42228), (69, 42153), (71, 42144), (76, 42111), (84, 42081), (87, 42069), (101, 41988),

Gene: L5\_68 Start: 42580, Stop: 42341, Start Num: 58

Candidate Starts for L5\_68:

(Start: 58 @42580 has 108 MA's), (71, 42505), (76, 42472), (85, 42439), (87, 42430), (89, 42418), (97, 42367), (101, 42349),

Gene: LBerry\_73 Start: 42445, Stop: 42137, Start Num: 33

Candidate Starts for LBerry\_73:

(Start: 33 @42445 has 25 MA's), (Start: 37 @42427 has 2 MA's), (46, 42412), (Start: 55 @42391 has 19 MA's), (62, 42358), (69, 42307), (71, 42298), (74, 42271), (76, 42265), (85, 42232),

Gene: LadyBird\_74 Start: 43662, Stop: 43423, Start Num: 58

Candidate Starts for LadyBird\_74:

(Start: 38 @43701 has 7 MA's), (Start: 58 @43662 has 108 MA's), (71, 43587), (76, 43554), (85, 43521), (87, 43512), (89, 43500), (99, 43443),

Gene: Landor\_69 Start: 43695, Stop: 43435, Start Num: 48

Candidate Starts for Landor\_69:

(Start: 48 @43695 has 18 MA's), (71, 43599), (76, 43566), (85, 43533), (87, 43524), (89, 43512),

Gene: Larenn\_68 Start: 42943, Stop: 42704, Start Num: 58

Candidate Starts for Larenn\_68:

(Start: 58 @42943 has 108 MA's), (71, 42868), (76, 42835), (79, 42820), (85, 42802), (87, 42793), (89, 42781), (99, 42724),

Gene: LarryKay\_72 Start: 42417, Stop: 42163, Start Num: 55

Candidate Starts for LarryKay\_72:

(Start: 37 @42453 has 2 MA's), (46, 42438), (Start: 55 @42417 has 19 MA's), (62, 42384), (69, 42333), (71, 42324), (74, 42297), (76, 42291), (85, 42258),

Gene: LastResort\_78 Start: 43475, Stop: 43197, Start Num: 42

Candidate Starts for LastResort\_78:

(21, 43535), (Start: 42 @43475 has 50 MA's), (66, 43397), (71, 43358), (76, 43325), (84, 43295), (85, 43292), (89, 43271), (94, 43238),

Gene: Leogania\_70 Start: 43630, Stop: 43391, Start Num: 58

Candidate Starts for Leogania\_70:

(Start: 38 @43669 has 7 MA's), (Start: 58 @43630 has 108 MA's), (71, 43555), (76, 43522), (85, 43489), (87, 43480), (89, 43468),

Gene: Lev2\_66 Start: 41776, Stop: 41525, Start Num: 50

Candidate Starts for Lev2\_66:

(Start: 50 @41776 has 37 MA's), (71, 41683), (72, 41668), (87, 41605), (93, 41560), (98, 41539), (100, 41533),

Gene: Leviathan\_72 Start: 43457, Stop: 43218, Start Num: 58

Candidate Starts for Leviathan\_72:

(Start: 38 @43496 has 7 MA's), (Start: 58 @43457 has 108 MA's), (71, 43382), (76, 43349), (85, 43316), (87, 43307), (89, 43295),

Gene: LilTurb\_71 Start: 43271, Stop: 43032, Start Num: 58

Candidate Starts for LilTurb\_71:

(Start: 38 @43310 has 7 MA's), (Start: 58 @43271 has 108 MA's), (71, 43196), (76, 43163), (85, 43130), (87, 43121), (89, 43109),

Gene: Lilbunny\_70 Start: 41479, Stop: 41222, Start Num: 42

Candidate Starts for Lilbunny\_70:

(Start: 42 @41479 has 50 MA's), (47, 41470), (69, 41395), (71, 41386), (76, 41353), (84, 41323), (87, 41311),

Gene: LittleCherry\_64 Start: 41339, Stop: 41088, Start Num: 50

Candidate Starts for LittleCherry\_64:

(Start: 50 @41339 has 37 MA's), (71, 41246), (72, 41231), (87, 41168), (93, 41123), (98, 41102),

Gene: Lokk\_65 Start: 41753, Stop: 41511, Start Num: 58

Candidate Starts for Lokk\_65:

(Start: 58 @41753 has 108 MA's), (71, 41678), (76, 41645), (85, 41612), (87, 41603),

Gene: LoneWolf\_73 Start: 42713, Stop: 42423, Start Num: 42

Candidate Starts for LoneWolf\_73:

(Start: 42 @42713 has 50 MA's), (70, 42602), (79, 42548), (89, 42509),

Gene: Looper\_79 Start: 43387, Stop: 43109, Start Num: 42

Candidate Starts for Looper\_79:

(21, 43447), (Start: 42 @43387 has 50 MA's), (66, 43309), (71, 43270), (76, 43237), (84, 43207), (85, 43204), (89, 43183), (94, 43150),

Gene: Loser\_72 Start: 43514, Stop: 43275, Start Num: 58

Candidate Starts for Loser\_72:

(Start: 38 @43553 has 7 MA's), (Start: 58 @43514 has 108 MA's), (69, 43448), (71, 43439), (76, 43406), (85, 43373), (87, 43364), (89, 43352),

Gene: Luchador\_73 Start: 43928, Stop: 43659, Start Num: 51

Candidate Starts for Luchador\_73:

(40, 43949), (Start: 51 @43928 has 4 MA's), (Start: 53 @43925 has 1 MA's), (70, 43829), (75, 43793), (76, 43790), (87, 43748), (89, 43736), (97, 43685),

Gene: Lucivia\_70 Start: 42084, Stop: 41818, Start Num: 58

Candidate Starts for Lucivia\_70:

(Start: 58 @42084 has 108 MA's), (70, 41991), (76, 41952), (85, 41919), (87, 41910), (89, 41898), (93, 41865),

Gene: Lucyedi\_75 Start: 43494, Stop: 43234, Start Num: 50

Candidate Starts for Lucyedi\_75:

(15, 43650), (25, 43560), (Start: 28 @43542 has 1 MA's), (Start: 30 @43536 has 1 MA's), (Start: 50 @43494 has 37 MA's), (75, 43356), (89, 43299),

Gene: LugYA\_75 Start: 42442, Stop: 42134, Start Num: 33

Candidate Starts for LugYA\_75:

(Start: 33 @42442 has 25 MA's), (Start: 37 @42424 has 2 MA's), (46, 42409), (Start: 55 @42388 has 19 MA's), (62, 42355), (69, 42304), (71, 42295), (74, 42268), (76, 42262), (85, 42229),

Gene: MaCh\_69 Start: 42030, Stop: 41764, Start Num: 58

Candidate Starts for MaCh\_69:

(Start: 58 @42030 has 108 MA's), (70, 41937), (76, 41898), (85, 41865), (87, 41856), (89, 41844), (93, 41811),

Gene: Mabel\_69 Start: 42031, Stop: 41765, Start Num: 58

Candidate Starts for Mabel\_69:

(Start: 58 @42031 has 108 MA's), (70, 41938), (76, 41899), (85, 41866), (87, 41857), (89, 41845), (93, 41812),

Gene: Malec\_69 Start: 43510, Stop: 43271, Start Num: 58

Candidate Starts for Malec\_69:

(Start: 58 @43510 has 108 MA's), (71, 43435), (76, 43402), (79, 43387), (85, 43369), (87, 43360), (89, 43348), (99, 43291),

Gene: Maminiaina\_73 Start: 42834, Stop: 42550, Start Num: 42

Candidate Starts for Maminiaina\_73:

(Start: 42 @42834 has 50 MA's), (70, 42723), (76, 42684), (89, 42630),

Gene: Marie\_70 Start: 42441, Stop: 42133, Start Num: 33

Candidate Starts for Marie\_70:

(Start: 33 @42441 has 25 MA's), (Start: 37 @42423 has 2 MA's), (46, 42408), (Start: 55 @42387 has 19 MA's), (62, 42354), (69, 42303), (71, 42294), (74, 42267), (76, 42261), (85, 42228),

Gene: MarysWell\_65 Start: 42016, Stop: 41765, Start Num: 50

Candidate Starts for MarysWell\_65:

(Start: 50 @42016 has 37 MA's), (69, 41932), (71, 41923), (72, 41908), (87, 41845), (93, 41800), (98, 41779),

Gene: McFly\_71 Start: 41284, Stop: 41036, Start Num: 48

Candidate Starts for McFly\_71:

(7, 41524), (12, 41452), (22, 41371), (31, 41326), (Start: 48 @41284 has 18 MA's), (69, 41209), (76, 41167), (84, 41137), (87, 41125),

Gene: Micasa\_63 Start: 41738, Stop: 41487, Start Num: 50

Candidate Starts for Micasa\_63:

(Start: 50 @41738 has 37 MA's), (69, 41654), (71, 41645), (72, 41630), (87, 41567), (93, 41522), (98, 41501),

Gene: MiculUcigas\_71 Start: 42957, Stop: 42718, Start Num: 58

Candidate Starts for MiculUcigas\_71:

(Start: 38 @42996 has 7 MA's), (Start: 58 @42957 has 108 MA's), (Start: 64 @42930 has 2 MA's), (65, 42927), (71, 42882), (76, 42849), (85, 42816), (87, 42807), (89, 42795), (99, 42738),

Gene: Midas2\_62 Start: 41634, Stop: 41383, Start Num: 50

Candidate Starts for Midas2\_62:

(Start: 50 @41634 has 37 MA's), (Start: 57 @41622 has 2 MA's), (71, 41541), (72, 41526), (87, 41463), (93, 41418), (98, 41397), (100, 41391),

Gene: Miko\_65 Start: 42531, Stop: 42289, Start Num: 58

Candidate Starts for Miko\_65:

(Start: 58 @42531 has 108 MA's), (Start: 64 @42504 has 2 MA's), (71, 42456), (76, 42423), (85, 42390), (87, 42381),

Gene: Milcery\_65 Start: 41528, Stop: 41277, Start Num: 50

Candidate Starts for Milcery\_65:

(Start: 50 @41528 has 37 MA's), (71, 41435), (72, 41420), (87, 41357), (93, 41312), (98, 41291),

Gene: MinecraftSteve\_80 Start: 43368, Stop: 43090, Start Num: 42

Candidate Starts for MinecraftSteve\_80:

(21, 43428), (Start: 42 @43368 has 50 MA's), (66, 43290), (71, 43251), (76, 43218), (84, 43188), (85, 43185), (89, 43164), (94, 43131),

Gene: MissWhite\_70 Start: 41650, Stop: 41378, Start Num: 42

Candidate Starts for MissWhite\_70:

(Start: 42 @41650 has 50 MA's), (Start: 58 @41617 has 108 MA's), (Start: 64 @41590 has 2 MA's), (69, 41551), (71, 41542), (76, 41509), (85, 41476), (87, 41467), (89, 41455), (92, 41440), (101, 41386),

Gene: MoneyMay\_71 Start: 42441, Stop: 42133, Start Num: 33

Candidate Starts for MoneyMay\_71:

(Start: 33 @42441 has 25 MA's), (Start: 37 @42423 has 2 MA's), (46, 42408), (Start: 55 @42387 has 19 MA's), (62, 42354), (69, 42303), (71, 42294), (74, 42267), (76, 42261), (85, 42228),

Gene: Mulciber\_68 Start: 41572, Stop: 41306, Start Num: 58

Candidate Starts for Mulciber\_68:

(Start: 58 @41572 has 108 MA's), (70, 41479), (76, 41440), (85, 41407), (87, 41398), (89, 41386), (93, 41353),



Gene: Munch\_69 Start: 42035, Stop: 41769, Start Num: 58

Candidate Starts for Munch\_69:

(Start: 58 @42035 has 108 MA's), (70, 41942), (76, 41903), (85, 41870), (87, 41861), (89, 41849), (93, 41816),

Gene: MyraDee\_69 Start: 40422, Stop: 40147, Start Num: 36

Candidate Starts for MyraDee\_69:

(Start: 36 @40422 has 2 MA's), (69, 40317), (70, 40314), (71, 40308), (84, 40245), (85, 40242), (87, 40233),

Gene: Myxus\_73 Start: 42693, Stop: 42415, Start Num: 44

Candidate Starts for Myxus\_73:

(Start: 44 @42693 has 21 MA's), (70, 42585), (79, 42531), (80, 42522), (89, 42492),

Gene: NaSiaTalie\_71 Start: 43051, Stop: 42812, Start Num: 58

Candidate Starts for NaSiaTalie\_71:

(Start: 38 @43090 has 7 MA's), (Start: 58 @43051 has 108 MA's), (Start: 64 @43024 has 2 MA's), (65, 43021), (71, 42976), (76, 42943), (85, 42910), (87, 42901), (89, 42889), (99, 42832),

Gene: Naca\_68 Start: 42929, Stop: 42675, Start Num: 50

Candidate Starts for Naca\_68:

(Start: 50 @42929 has 37 MA's), (71, 42836), (72, 42821), (87, 42758), (93, 42713), (98, 42692), (100, 42686),

Gene: Naji\_74 Start: 43721, Stop: 43488, Start Num: 58

Candidate Starts for Naji\_74:

(Start: 58 @43721 has 108 MA's), (71, 43643), (76, 43610), (85, 43577), (89, 43556), (98, 43502),

Gene: NearlyHeadless\_81 Start: 43932, Stop: 43648, Start Num: 55

Candidate Starts for NearlyHeadless\_81:

(Start: 55 @43932 has 19 MA's), (Start: 64 @43890 has 2 MA's), (70, 43848), (71, 43842), (85, 43770), (87, 43761), (88, 43752),

Gene: Nebulosus\_77 Start: 43032, Stop: 42754, Start Num: 42

Candidate Starts for Nebulosus\_77:

(21, 43092), (Start: 42 @43032 has 50 MA's), (66, 42954), (71, 42915), (76, 42882), (84, 42852), (85, 42849), (89, 42828), (94, 42795),

Gene: Nedarya\_76 Start: 43628, Stop: 43350, Start Num: 42

Candidate Starts for Nedarya\_76:

(Start: 42 @43628 has 50 MA's), (66, 43550), (71, 43511), (76, 43478), (89, 43424), (94, 43391),

Gene: Neeharika16\_68 Start: 40751, Stop: 40503, Start Num: 48

Candidate Starts for Neeharika16\_68:

(7, 40991), (12, 40919), (22, 40838), (31, 40793), (Start: 48 @40751 has 18 MA's), (69, 40676), (76, 40634), (84, 40604), (87, 40592),

Gene: Newrala\_71 Start: 41291, Stop: 41043, Start Num: 48

Candidate Starts for Newrala\_71:

(7, 41531), (12, 41459), (22, 41378), (31, 41333), (Start: 48 @41291 has 18 MA's), (69, 41216), (76, 41174), (84, 41144), (87, 41132),

Gene: NicoleTera\_68 Start: 43116, Stop: 42838, Start Num: 38

Candidate Starts for NicoleTera\_68:

(24, 43173), (Start: 38 @43116 has 7 MA's), (Start: 58 @43077 has 108 MA's), (71, 43002), (76, 42969), (85, 42936), (87, 42927), (89, 42915), (100, 42855),

Gene: NothingSpecial\_67 Start: 43318, Stop: 43031, Start Num: 38

Candidate Starts for NothingSpecial\_67:

(27, 43354), (Start: 38 @43318 has 7 MA's), (Start: 58 @43279 has 108 MA's), (69, 43204), (71, 43195), (76, 43162), (85, 43129), (87, 43120), (89, 43108),

Gene: Odin\_71 Start: 42102, Stop: 41860, Start Num: 58

Candidate Starts for Odin\_71:

(Start: 58 @42102 has 108 MA's), (69, 42027), (72, 42003), (75, 41988), (76, 41985), (77, 41979), (78, 41976), (85, 41952), (89, 41931),

Gene: Ollie\_72 Start: 42312, Stop: 42004, Start Num: 33

Candidate Starts for Ollie\_72:

(Start: 33 @42312 has 25 MA's), (Start: 37 @42294 has 2 MA's), (46, 42279), (Start: 55 @42258 has 19 MA's), (62, 42225), (69, 42174), (71, 42165), (74, 42138), (76, 42132), (85, 42099),

Gene: Oofda\_80 Start: 43721, Stop: 43443, Start Num: 42

Candidate Starts for Oofda\_80:

(20, 43796), (Start: 42 @43721 has 50 MA's), (66, 43643), (71, 43604), (76, 43571), (84, 43541), (85, 43538), (89, 43517), (94, 43484),

Gene: Orange\_68 Start: 41584, Stop: 41318, Start Num: 58

Candidate Starts for Orange\_68:

(Start: 58 @41584 has 108 MA's), (70, 41491), (76, 41452), (85, 41419), (87, 41410), (89, 41398), (93, 41365),

Gene: P28Green\_72 Start: 42444, Stop: 42136, Start Num: 33

Candidate Starts for P28Green\_72:

(Start: 33 @42444 has 25 MA's), (Start: 37 @42426 has 2 MA's), (46, 42411), (Start: 55 @42390 has 19 MA's), (62, 42357), (69, 42306), (71, 42297), (74, 42270), (76, 42264), (85, 42231),

Gene: PackMan\_72 Start: 42568, Stop: 42290, Start Num: 44

Candidate Starts for PackMan\_72:

(Start: 44 @42568 has 21 MA's), (70, 42460), (79, 42406), (80, 42397), (89, 42367),

Gene: PainterBoy\_74 Start: 43245, Stop: 42943, Start Num: 30

Candidate Starts for PainterBoy\_74:

(15, 43359), (25, 43269), (Start: 28 @43251 has 1 MA's), (Start: 30 @43245 has 1 MA's), (Start: 50 @43203 has 37 MA's), (75, 43065), (89, 43008),

Gene: Pawn\_70 Start: 42208, Stop: 41954, Start Num: 55

Candidate Starts for Pawn\_70:

(Start: 33 @42262 has 25 MA's), (Start: 37 @42244 has 2 MA's), (46, 42229), (Start: 55 @42208 has 19 MA's), (62, 42175), (69, 42124), (71, 42115), (74, 42088), (76, 42082), (78, 42073), (85, 42049),

Gene: Penny1\_72 Start: 42445, Stop: 42137, Start Num: 33

Candidate Starts for Penny1\_72:

(Start: 33 @42445 has 25 MA's), (Start: 37 @42427 has 2 MA's), (46, 42412), (Start: 55 @42391 has 19 MA's), (62, 42358), (69, 42307), (71, 42298), (74, 42271), (76, 42265), (85, 42232),

Gene: Petersenfast\_67 Start: 41583, Stop: 41317, Start Num: 58  
Candidate Starts for Petersenfast\_67:  
(Start: 58 @41583 has 108 MA's), (70, 41490), (76, 41451), (85, 41418), (87, 41409), (89, 41397), (93, 41364),

Gene: PetterN\_73 Start: 42716, Stop: 42465, Start Num: 50  
Candidate Starts for PetterN\_73:  
(Start: 50 @42716 has 37 MA's), (71, 42623), (72, 42608), (87, 42545), (93, 42500), (98, 42479),

Gene: Ph8s\_74 Start: 42194, Stop: 41919, Start Num: 42  
Candidate Starts for Ph8s\_74:  
(Start: 42 @42194 has 50 MA's), (47, 42185), (Start: 64 @42125 has 2 MA's), (69, 42086), (76, 42044), (78, 42035), (85, 42011), (89, 41990),

Gene: Phaded\_66 Start: 43672, Stop: 43412, Start Num: 48  
Candidate Starts for Phaded\_66:  
(12, 43840), (22, 43759), (Start: 48 @43672 has 18 MA's), (71, 43576), (76, 43543), (85, 43510), (87, 43501), (89, 43489),

Gene: Phaeder\_73 Start: 42568, Stop: 42290, Start Num: 44  
Candidate Starts for Phaeder\_73:  
(Start: 44 @42568 has 21 MA's), (70, 42460), (79, 42406), (80, 42397), (89, 42367),

Gene: Pharaoh\_67 Start: 42614, Stop: 42354, Start Num: 54  
Candidate Starts for Pharaoh\_67:  
(Start: 54 @42614 has 1 MA's), (70, 42521), (71, 42515), (76, 42482), (78, 42473),

Gene: Phillis\_77 Start: 42884, Stop: 42600, Start Num: 55  
Candidate Starts for Phillis\_77:  
(Start: 55 @42884 has 19 MA's), (Start: 64 @42842 has 2 MA's), (70, 42800), (71, 42794), (85, 42722), (87, 42713), (88, 42704),

Gene: Phlei\_58 Start: 41698, Stop: 41450, Start Num: 58  
Candidate Starts for Phlei\_58:  
(Start: 58 @41698 has 108 MA's), (60, 41689), (61, 41683), (Start: 64 @41653 has 2 MA's), (68, 41638), (69, 41614), (71, 41605), (73, 41581), (76, 41572), (79, 41557), (85, 41539), (89, 41518),

Gene: Phlorence\_64 Start: 41521, Stop: 41270, Start Num: 50  
Candidate Starts for Phlorence\_64:  
(Start: 50 @41521 has 37 MA's), (71, 41428), (72, 41413), (87, 41350), (93, 41305), (98, 41284), (100, 41278),

Gene: Phoebe\_73 Start: 42380, Stop: 42126, Start Num: 55  
Candidate Starts for Phoebe\_73:  
(Start: 33 @42434 has 25 MA's), (Start: 37 @42416 has 2 MA's), (46, 42401), (Start: 55 @42380 has 19 MA's), (62, 42347), (69, 42296), (71, 42287), (74, 42260), (76, 42254), (85, 42221),

Gene: Phonnegut\_73 Start: 42638, Stop: 42360, Start Num: 44  
Candidate Starts for Phonnegut\_73:  
(Start: 44 @42638 has 21 MA's), (70, 42530), (79, 42476), (80, 42467), (89, 42437),

Gene: Phoxy\_72 Start: 42466, Stop: 42158, Start Num: 33

Candidate Starts for Phoxy\_72:

(Start: 33 @42466 has 25 MA's), (Start: 37 @42448 has 2 MA's), (46, 42433), (Start: 55 @42412 has 19 MA's), (62, 42379), (69, 42328), (71, 42319), (74, 42292), (76, 42286), (85, 42253),

Gene: Phranny\_72 Start: 42190, Stop: 41936, Start Num: 55

Candidate Starts for Phranny\_72:

(46, 42211), (Start: 55 @42190 has 19 MA's), (62, 42157), (69, 42106), (71, 42097), (74, 42070), (76, 42064), (78, 42055), (85, 42031),

Gene: PickleBack\_66 Start: 41698, Stop: 41447, Start Num: 50

Candidate Starts for PickleBack\_66:

(Start: 50 @41698 has 37 MA's), (71, 41605), (72, 41590), (87, 41527), (93, 41482), (98, 41461), (100, 41455),

Gene: Pioneer\_73 Start: 42638, Stop: 42360, Start Num: 44

Candidate Starts for Pioneer\_73:

(Start: 44 @42638 has 21 MA's), (70, 42530), (79, 42476), (80, 42467), (89, 42437),

Gene: Piro94\_70 Start: 43019, Stop: 42780, Start Num: 58

Candidate Starts for Piro94\_70:

(Start: 58 @43019 has 108 MA's), (Start: 64 @42992 has 2 MA's), (65, 42989), (71, 42944), (76, 42911), (85, 42878), (87, 42869), (89, 42857),

Gene: Pmask\_70 Start: 41287, Stop: 41039, Start Num: 48

Candidate Starts for Pmask\_70:

(7, 41527), (12, 41455), (22, 41374), (31, 41329), (Start: 48 @41287 has 18 MA's), (69, 41212), (76, 41170), (84, 41140), (87, 41128),

Gene: Pomar16\_73 Start: 43761, Stop: 43528, Start Num: 58

Candidate Starts for Pomar16\_73:

(Start: 58 @43761 has 108 MA's), (71, 43683), (76, 43650), (85, 43617), (89, 43596), (98, 43542),

Gene: PotatoSplit\_73 Start: 42445, Stop: 42137, Start Num: 33

Candidate Starts for PotatoSplit\_73:

(Start: 33 @42445 has 25 MA's), (Start: 37 @42427 has 2 MA's), (46, 42412), (Start: 55 @42391 has 19 MA's), (62, 42358), (69, 42307), (71, 42298), (74, 42271), (76, 42265), (85, 42232),

Gene: Power\_70 Start: 43392, Stop: 43153, Start Num: 58

Candidate Starts for Power\_70:

(Start: 38 @43431 has 7 MA's), (Start: 58 @43392 has 108 MA's), (71, 43317), (76, 43284), (85, 43251), (87, 43242), (89, 43230), (99, 43173),

Gene: Priamo\_73 Start: 41142, Stop: 40894, Start Num: 48

Candidate Starts for Priamo\_73:

(7, 41382), (12, 41310), (22, 41229), (31, 41184), (Start: 48 @41142 has 18 MA's), (69, 41067), (76, 41025), (84, 40995), (87, 40983),

Gene: Priya\_71 Start: 42365, Stop: 42087, Start Num: 44

Candidate Starts for Priya\_71:

(Start: 44 @42365 has 21 MA's), (70, 42257), (79, 42203), (80, 42194), (89, 42164),

Gene: Pukovnik\_67 Start: 43337, Stop: 43080, Start Num: 48

Candidate Starts for Pukovnik\_67:

(12, 43505), (Start: 48 @43337 has 18 MA's), (71, 43244), (76, 43211), (85, 43178), (87, 43169), (89, 43157),

Gene: Qobbit\_71 Start: 42327, Stop: 42049, Start Num: 44

Candidate Starts for Qobbit\_71:

(Start: 44 @42327 has 21 MA's), (70, 42219), (79, 42165), (80, 42156), (89, 42126),

Gene: QueenB2\_69 Start: 42866, Stop: 42627, Start Num: 58

Candidate Starts for QueenB2\_69:

(Start: 38 @42905 has 7 MA's), (Start: 58 @42866 has 108 MA's), (71, 42791), (76, 42758), (85, 42725), (87, 42716), (89, 42704), (100, 42644),

Gene: QueenBeesly\_71 Start: 43349, Stop: 43110, Start Num: 58

Candidate Starts for QueenBeesly\_71:

(Start: 38 @43388 has 7 MA's), (Start: 58 @43349 has 108 MA's), (71, 43274), (76, 43241), (85, 43208), (87, 43199), (89, 43187), (99, 43130),

Gene: Rachaly\_67 Start: 42676, Stop: 42434, Start Num: 58

Candidate Starts for Rachaly\_67:

(Start: 58 @42676 has 108 MA's), (Start: 64 @42649 has 2 MA's), (71, 42601), (76, 42568), (85, 42535), (87, 42526),

Gene: Rahalelujah\_72 Start: 42339, Stop: 42037, Start Num: 34

Candidate Starts for Rahalelujah\_72:

(5, 42549), (Start: 34 @42339 has 1 MA's), (76, 42177), (89, 42123),

Gene: ReMo\_78 Start: 43472, Stop: 43194, Start Num: 42

Candidate Starts for ReMo\_78:

(21, 43532), (Start: 42 @43472 has 50 MA's), (66, 43394), (71, 43355), (76, 43322), (84, 43292), (85, 43289), (89, 43268), (94, 43235),

Gene: Reba\_71 Start: 41863, Stop: 41609, Start Num: 55

Candidate Starts for Reba\_71:

(46, 41884), (Start: 55 @41863 has 19 MA's), (62, 41830), (69, 41779), (71, 41770), (74, 41743), (76, 41737), (78, 41728), (85, 41704),

Gene: RedRock\_70 Start: 43508, Stop: 43269, Start Num: 58

Candidate Starts for RedRock\_70:

(Start: 58 @43508 has 108 MA's), (69, 43442), (71, 43433), (76, 43400), (85, 43367), (87, 43358), (89, 43346),

Gene: Refuge\_68 Start: 43722, Stop: 43405, Start Num: 29

Candidate Starts for Refuge\_68:

(9, 43860), (16, 43821), (Start: 28 @43725 has 1 MA's), (Start: 29 @43722 has 3 MA's), (Start: 54 @43668 has 1 MA's), (Start: 64 @43617 has 2 MA's), (69, 43578), (71, 43569), (76, 43536),

Gene: Remus\_81 Start: 43800, Stop: 43522, Start Num: 42

Candidate Starts for Remus\_81:

(20, 43875), (Start: 42 @43800 has 50 MA's), (66, 43722), (71, 43683), (76, 43650), (84, 43620), (85, 43617), (89, 43596), (94, 43563),

Gene: Retro23\_71 Start: 43080, Stop: 42841, Start Num: 58

Candidate Starts for Retro23\_71:

(Start: 38 @43119 has 7 MA's), (Start: 58 @43080 has 108 MA's), (71, 43005), (76, 42972), (85, 42939), (87, 42930), (89, 42918), (99, 42861),

Gene: Rifter\_73 Start: 41009, Stop: 40752, Start Num: 42

Candidate Starts for Rifter\_73:

(Start: 42 @41009 has 50 MA's), (47, 41000), (69, 40925), (71, 40916), (76, 40883), (84, 40853), (87, 40841),

Gene: Roary\_82 Start: 44168, Stop: 43884, Start Num: 55

Candidate Starts for Roary\_82:

(Start: 55 @44168 has 19 MA's), (Start: 64 @44126 has 2 MA's), (69, 44087), (70, 44084), (71, 44078), (92, 43970),

Gene: Roksolana\_73 Start: 41743, Stop: 41486, Start Num: 42

Candidate Starts for Roksolana\_73:

(Start: 42 @41743 has 50 MA's), (47, 41734), (69, 41659), (71, 41650), (76, 41617), (84, 41587), (87, 41575), (101, 41494),

Gene: Rosalind\_78 Start: 43296, Stop: 43018, Start Num: 42

Candidate Starts for Rosalind\_78:

(21, 43356), (Start: 42 @43296 has 50 MA's), (66, 43218), (71, 43179), (76, 43146), (84, 43116), (85, 43113), (89, 43092), (94, 43059),

Gene: Rummer\_71 Start: 42469, Stop: 42161, Start Num: 33

Candidate Starts for Rummer\_71:

(Start: 33 @42469 has 25 MA's), (Start: 37 @42451 has 2 MA's), (46, 42436), (Start: 55 @42415 has 19 MA's), (62, 42382), (69, 42331), (71, 42322), (74, 42295), (76, 42289), (85, 42256),

Gene: Sabinator\_70 Start: 42440, Stop: 42132, Start Num: 33

Candidate Starts for Sabinator\_70:

(Start: 33 @42440 has 25 MA's), (Start: 37 @42422 has 2 MA's), (46, 42407), (Start: 55 @42386 has 19 MA's), (62, 42353), (69, 42302), (71, 42293), (74, 42266), (76, 42260), (85, 42227),

Gene: Saintus\_76 Start: 40816, Stop: 40532, Start Num: 55

Candidate Starts for Saintus\_76:

(Start: 55 @40816 has 19 MA's), (Start: 64 @40774 has 2 MA's), (70, 40732), (71, 40726), (92, 40618),

Gene: Salz\_68 Start: 41498, Stop: 41232, Start Num: 58

Candidate Starts for Salz\_68:

(Start: 58 @41498 has 108 MA's), (70, 41405), (76, 41366), (85, 41333), (87, 41324), (89, 41312), (93, 41279),

Gene: Scherzo\_72 Start: 42857, Stop: 42579, Start Num: 44

Candidate Starts for Scherzo\_72:

(Start: 44 @42857 has 21 MA's), (70, 42749), (79, 42695), (80, 42686), (89, 42656),

Gene: Scorpia\_69 Start: 42287, Stop: 42036, Start Num: 50

Candidate Starts for Scorpia\_69:

(Start: 50 @42287 has 37 MA's), (71, 42194), (72, 42179), (87, 42116), (93, 42071), (98, 42050),

Gene: SemperFi\_71 Start: 43237, Stop: 42998, Start Num: 58

Candidate Starts for SemperFi\_71:

(Start: 38 @43276 has 7 MA's), (Start: 58 @43237 has 108 MA's), (71, 43162), (76, 43129), (85, 43096), (87, 43087), (89, 43075), (99, 43018),

Gene: Serenity\_74 Start: 42637, Stop: 42359, Start Num: 38

Candidate Starts for Serenity\_74:

(Start: 38 @42637 has 7 MA's), (Start: 58 @42598 has 108 MA's), (68, 42556), (71, 42523), (76, 42490), (84, 42460), (85, 42457), (87, 42448), (89, 42436), (101, 42367),

Gene: Sham4\_69 Start: 41582, Stop: 41316, Start Num: 58

Candidate Starts for Sham4\_69:

(Start: 58 @41582 has 108 MA's), (70, 41489), (76, 41450), (85, 41417), (87, 41408), (89, 41396), (93, 41363),

Gene: ShayRa\_80 Start: 43325, Stop: 43047, Start Num: 42

Candidate Starts for ShayRa\_80:

(21, 43385), (Start: 42 @43325 has 50 MA's), (66, 43247), (71, 43208), (76, 43175), (84, 43145), (85, 43142), (89, 43121), (94, 43088),

Gene: SheaKeira\_67 Start: 41628, Stop: 41359, Start Num: 49

Candidate Starts for SheaKeira\_67:

(Start: 49 @41628 has 1 MA's), (69, 41532), (70, 41529), (79, 41475), (80, 41466), (89, 41436),

Gene: Smeadley\_80 Start: 43984, Stop: 43700, Start Num: 55

Candidate Starts for Smeadley\_80:

(Start: 55 @43984 has 19 MA's), (Start: 64 @43942 has 2 MA's), (70, 43900), (71, 43894), (92, 43786),

Gene: Smeagan\_73 Start: 43548, Stop: 43309, Start Num: 58

Candidate Starts for Smeagan\_73:

(Start: 38 @43587 has 7 MA's), (Start: 58 @43548 has 108 MA's), (71, 43473), (76, 43440), (85, 43407), (87, 43398), (89, 43386),

Gene: SmellyB\_71 Start: 41315, Stop: 41076, Start Num: 58

Candidate Starts for SmellyB\_71:

(Start: 58 @41315 has 108 MA's), (71, 41240), (76, 41207), (85, 41174), (87, 41165),

Gene: SnapTap\_70 Start: 43048, Stop: 42809, Start Num: 58

Candidate Starts for SnapTap\_70:

(Start: 38 @43087 has 7 MA's), (Start: 58 @43048 has 108 MA's), (71, 42973), (76, 42940), (85, 42907), (87, 42898), (89, 42886), (99, 42829),

Gene: Snape\_69 Start: 41574, Stop: 41308, Start Num: 58

Candidate Starts for Snape\_69:

(Start: 58 @41574 has 108 MA's), (70, 41481), (76, 41442), (85, 41409), (87, 41400), (89, 41388), (93, 41355),

Gene: SoYo\_69 Start: 42353, Stop: 42045, Start Num: 33

Candidate Starts for SoYo\_69:

(Start: 33 @42353 has 25 MA's), (Start: 37 @42335 has 2 MA's), (46, 42320), (Start: 55 @42299 has 19 MA's), (62, 42266), (69, 42215), (71, 42206), (74, 42179), (76, 42173), (85, 42140),

Gene: SororFago\_72 Start: 43648, Stop: 43376, Start Num: 51

Candidate Starts for SororFago\_72:

(2, 43936), (40, 43669), (Start: 51 @43648 has 4 MA's), (70, 43546), (75, 43510), (76, 43507), (87, 43465), (89, 43453), (97, 43402),

Gene: Soups\_80 Start: 43589, Stop: 43311, Start Num: 42

Candidate Starts for Soups\_80:

(20, 43664), (Start: 42 @43589 has 50 MA's), (66, 43511), (71, 43472), (76, 43439), (84, 43409), (85, 43406), (89, 43385), (94, 43352),

Gene: Spike509\_72 Start: 42466, Stop: 42158, Start Num: 33

Candidate Starts for Spike509\_72:

(Start: 33 @42466 has 25 MA's), (Start: 37 @42448 has 2 MA's), (46, 42433), (Start: 55 @42412 has 19 MA's), (62, 42379), (69, 42328), (71, 42319), (74, 42292), (76, 42286), (85, 42253),

Gene: Spouty\_68 Start: 42364, Stop: 42086, Start Num: 44

Candidate Starts for Spouty\_68:

(Start: 44 @42364 has 21 MA's), (70, 42256), (79, 42202), (80, 42193), (89, 42163),

Gene: Stagni\_69 Start: 42390, Stop: 42136, Start Num: 55

Candidate Starts for Stagni\_69:

(Start: 33 @42444 has 25 MA's), (Start: 37 @42426 has 2 MA's), (46, 42411), (Start: 55 @42390 has 19 MA's), (62, 42357), (69, 42306), (71, 42297), (74, 42270), (76, 42264), (85, 42231),

Gene: StarStuff\_74 Start: 43723, Stop: 43490, Start Num: 58

Candidate Starts for StarStuff\_74:

(Start: 58 @43723 has 108 MA's), (71, 43645), (76, 43612), (85, 43579), (89, 43558), (98, 43504),

Gene: Steamy\_66 Start: 42070, Stop: 41750, Start Num: 28

Candidate Starts for Steamy\_66:

(13, 42181), (Start: 28 @42070 has 1 MA's), (Start: 54 @42013 has 1 MA's), (71, 41914), (76, 41881), (79, 41866),

Gene: StepMih\_71 Start: 42435, Stop: 42127, Start Num: 33

Candidate Starts for StepMih\_71:

(Start: 33 @42435 has 25 MA's), (Start: 37 @42417 has 2 MA's), (46, 42402), (Start: 55 @42381 has 19 MA's), (62, 42348), (69, 42297), (71, 42288), (74, 42261), (76, 42255), (85, 42222),

Gene: Stephig9\_79 Start: 43923, Stop: 43639, Start Num: 55

Candidate Starts for Stephig9\_79:

(Start: 55 @43923 has 19 MA's), (Start: 64 @43881 has 2 MA's), (70, 43839), (71, 43833), (92, 43725),

Gene: Strosahl\_81 Start: 43800, Stop: 43522, Start Num: 42

Candidate Starts for Strosahl\_81:

(20, 43875), (Start: 42 @43800 has 50 MA's), (66, 43722), (71, 43683), (76, 43650), (84, 43620), (85, 43617), (89, 43596), (94, 43563),

Gene: SuperAwesome\_71 Start: 41329, Stop: 41081, Start Num: 48

Candidate Starts for SuperAwesome\_71:

(7, 41569), (12, 41497), (22, 41416), (31, 41371), (Start: 48 @41329 has 18 MA's), (69, 41254), (76, 41212), (84, 41182), (87, 41170),

Gene: SuperCallie99\_68 Start: 41171, Stop: 40923, Start Num: 48

Candidate Starts for SuperCallie99\_68:



(7, 41411), (12, 41339), (22, 41258), (31, 41213), (Start: 48 @41171 has 18 MA's), (69, 41096), (76, 41054), (84, 41024), (87, 41012),

Gene: Superchunk\_72 Start: 41714, Stop: 41472, Start Num: 58

Candidate Starts for Superchunk\_72:

(Start: 58 @41714 has 108 MA's), (72, 41615), (75, 41600), (76, 41597), (77, 41591), (78, 41588), (85, 41564), (89, 41543),

Gene: SweetiePie\_70 Start: 43180, Stop: 42941, Start Num: 58

Candidate Starts for SweetiePie\_70:

(Start: 38 @43219 has 7 MA's), (Start: 58 @43180 has 108 MA's), (71, 43105), (76, 43072), (85, 43039), (87, 43030), (89, 43018), (99, 42961),

Gene: SwirlSquare\_77 Start: 42463, Stop: 42188, Start Num: 42

Candidate Starts for SwirlSquare\_77:

(1, 42814), (4, 42703), (18, 42577), (Start: 42 @42463 has 50 MA's), (47, 42454), (Start: 64 @42394 has 2 MA's), (76, 42313), (85, 42280),

Gene: Swirley\_65 Start: 41678, Stop: 41427, Start Num: 50

Candidate Starts for Swirley\_65:

(Start: 50 @41678 has 37 MA's), (71, 41585), (72, 41570), (87, 41507), (93, 41462), (98, 41441),

Gene: Switzerland\_79 Start: 43464, Stop: 43186, Start Num: 42

Candidate Starts for Switzerland\_79:

(21, 43524), (Start: 42 @43464 has 50 MA's), (66, 43386), (71, 43347), (76, 43314), (84, 43284), (85, 43281), (89, 43260), (94, 43227),

Gene: SydNat\_65 Start: 41870, Stop: 41619, Start Num: 50

Candidate Starts for SydNat\_65:

(Start: 50 @41870 has 37 MA's), (Start: 57 @41858 has 2 MA's), (69, 41786), (71, 41777), (72, 41762), (87, 41699), (93, 41654), (98, 41633), (100, 41627),

Gene: TarsusIV\_68 Start: 43024, Stop: 42785, Start Num: 58

Candidate Starts for TarsusIV\_68:

(Start: 38 @43063 has 7 MA's), (Start: 58 @43024 has 108 MA's), (65, 42994), (71, 42949), (76, 42916), (85, 42883), (87, 42874), (89, 42862), (100, 42802),

Gene: Tarynearal\_64 Start: 41514, Stop: 41263, Start Num: 50

Candidate Starts for Tarynearal\_64:

(Start: 50 @41514 has 37 MA's), (71, 41421), (72, 41406), (87, 41343), (93, 41298), (98, 41277), (100, 41271),

Gene: Taurus\_73 Start: 42441, Stop: 42133, Start Num: 33

Candidate Starts for Taurus\_73:

(Start: 33 @42441 has 25 MA's), (Start: 37 @42423 has 2 MA's), (46, 42408), (Start: 55 @42387 has 19 MA's), (62, 42354), (69, 42303), (71, 42294), (74, 42267), (76, 42261), (85, 42228),

Gene: Theia\_64 Start: 41988, Stop: 41749, Start Num: 57

Candidate Starts for Theia\_64:

(Start: 50 @42000 has 37 MA's), (Start: 57 @41988 has 2 MA's), (69, 41916), (71, 41907), (72, 41892), (87, 41829), (93, 41784), (98, 41763),

Gene: Tiger\_65 Start: 41442, Stop: 41191, Start Num: 50

Candidate Starts for Tiger\_65:

(Start: 50 @41442 has 37 MA's), (71, 41349), (72, 41334), (87, 41271), (93, 41226), (98, 41205), (100, 41199),

Gene: Timothy\_69 Start: 41551, Stop: 41285, Start Num: 58

Candidate Starts for Timothy\_69:

(Start: 58 @41551 has 108 MA's), (70, 41458), (76, 41419), (85, 41386), (87, 41377), (89, 41365), (93, 41332),

Gene: Timshel\_68 Start: 45505, Stop: 45218, Start Num: 36

Candidate Starts for Timshel\_68:

(10, 45658), (Start: 19 @45583 has 1 MA's), (26, 45550), (Start: 36 @45505 has 2 MA's), (Start: 64 @45427 has 2 MA's), (69, 45388), (71, 45379), (79, 45331), (81, 45319), (85, 45313), (89, 45292), (97, 45241), (101, 45223),

Gene: TopsytheTRex\_70 Start: 42600, Stop: 42361, Start Num: 58

Candidate Starts for TopsytheTRex\_70:

(Start: 58 @42600 has 108 MA's), (68, 42558), (71, 42525), (74, 42498), (76, 42492), (85, 42459), (87, 42450), (89, 42438), (97, 42387), (101, 42369),

Gene: Toaka\_73 Start: 42844, Stop: 42566, Start Num: 41

Candidate Starts for Toaka\_73:

(Start: 41 @42844 has 1 MA's), (70, 42739), (89, 42646),

Gene: Tomathan\_74 Start: 43834, Stop: 43601, Start Num: 58

Candidate Starts for Tomathan\_74:

(Start: 58 @43834 has 108 MA's), (71, 43756), (76, 43723), (85, 43690), (89, 43669), (98, 43615),

Gene: ToneTone\_70 Start: 41408, Stop: 41151, Start Num: 42

Candidate Starts for ToneTone\_70:

(Start: 42 @41408 has 50 MA's), (47, 41399), (69, 41324), (71, 41315), (76, 41282), (84, 41252), (87, 41240),

Gene: Trixie\_69 Start: 43058, Stop: 42813, Start Num: 48

Candidate Starts for Trixie\_69:

(Start: 45 @43064 has 1 MA's), (Start: 48 @43058 has 18 MA's), (Start: 64 @43025 has 2 MA's), (71, 42977), (76, 42944), (85, 42911), (87, 42902), (89, 42890), (97, 42839),

Gene: Trooper\_70 Start: 42983, Stop: 42744, Start Num: 58

Candidate Starts for Trooper\_70:

(Start: 38 @43022 has 7 MA's), (Start: 58 @42983 has 108 MA's), (71, 42908), (76, 42875), (85, 42842), (87, 42833), (100, 42761),

Gene: Tubs\_73 Start: 42568, Stop: 42290, Start Num: 44

Candidate Starts for Tubs\_73:

(Start: 44 @42568 has 21 MA's), (70, 42460), (79, 42406), (80, 42397), (89, 42367),

Gene: Tucker\_73 Start: 41611, Stop: 41354, Start Num: 42

Candidate Starts for Tucker\_73:

(Start: 42 @41611 has 50 MA's), (47, 41602), (69, 41527), (71, 41518), (76, 41485), (84, 41455), (87, 41443),

Gene: Turbido\_71 Start: 43267, Stop: 43028, Start Num: 58

Candidate Starts for Turbido\_71:

(Start: 38 @43306 has 7 MA's), (Start: 58 @43267 has 108 MA's), (71, 43192), (76, 43159), (85, 43126), (87, 43117), (89, 43105),

Gene: Ugenie5\_68 Start: 42856, Stop: 42578, Start Num: 44

Candidate Starts for Ugenie5\_68:

(Start: 44 @42856 has 21 MA's), (70, 42748), (79, 42694), (80, 42685), (89, 42655),

Gene: UnionJack\_69 Start: 41951, Stop: 41700, Start Num: 50

Candidate Starts for UnionJack\_69:

(Start: 50 @41951 has 37 MA's), (71, 41858), (72, 41843), (87, 41780), (93, 41735), (98, 41714), (100, 41708),

Gene: Updawg\_71 Start: 42915, Stop: 42676, Start Num: 58

Candidate Starts for Updawg\_71:

(Start: 58 @42915 has 108 MA's), (Start: 64 @42888 has 2 MA's), (65, 42885), (71, 42840), (76, 42807), (85, 42774), (87, 42765), (89, 42753),

Gene: VA6\_70 Start: 42966, Stop: 42727, Start Num: 58

Candidate Starts for VA6\_70:

(Start: 38 @43005 has 7 MA's), (Start: 58 @42966 has 108 MA's), (Start: 64 @42939 has 2 MA's), (71, 42891), (76, 42858), (85, 42825), (87, 42816), (89, 42804), (99, 42747),

Gene: VC3\_73 Start: 43176, Stop: 42916, Start Num: 58

Candidate Starts for VC3\_73:

(Start: 58 @43176 has 108 MA's), (71, 43071), (76, 43038), (85, 43005), (89, 42984), (98, 42930), (100, 42927),

Gene: Vanisoa\_70 Start: 43200, Stop: 42919, Start Num: 42

Candidate Starts for Vanisoa\_70:

(Start: 42 @43200 has 50 MA's), (76, 43059), (89, 43005),

Gene: VohminGhazi\_71 Start: 41316, Stop: 41077, Start Num: 58

Candidate Starts for VohminGhazi\_71:

(Start: 58 @41316 has 108 MA's), (71, 41241), (76, 41208), (85, 41175), (87, 41166),

Gene: Waits\_80 Start: 43700, Stop: 43422, Start Num: 42

Candidate Starts for Waits\_80:

(20, 43775), (Start: 42 @43700 has 50 MA's), (66, 43622), (71, 43583), (76, 43550), (84, 43520), (85, 43517), (89, 43496), (94, 43463),

Gene: WeiHuaDA\_71 Start: 43855, Stop: 43616, Start Num: 58

Candidate Starts for WeiHuaDA\_71:

(Start: 38 @43894 has 7 MA's), (Start: 58 @43855 has 108 MA's), (71, 43780), (76, 43747), (85, 43714), (87, 43705), (89, 43693), (97, 43642),

Gene: Whabigail7\_71 Start: 43267, Stop: 43028, Start Num: 58

Candidate Starts for Whabigail7\_71:

(Start: 38 @43306 has 7 MA's), (Start: 58 @43267 has 108 MA's), (71, 43192), (76, 43159), (85, 43126), (87, 43117), (89, 43105),

Gene: WideWale\_71 Start: 42915, Stop: 42676, Start Num: 58

Candidate Starts for WideWale\_71:

(Start: 58 @42915 has 108 MA's), (Start: 64 @42888 has 2 MA's), (65, 42885), (71, 42840), (76, 42807), (85, 42774), (87, 42765), (89, 42753),

Gene: Wiks\_72 Start: 41479, Stop: 41222, Start Num: 42

Candidate Starts for Wiks\_72:

(Start: 42 @41479 has 50 MA's), (47, 41470), (69, 41395), (71, 41386), (76, 41353), (84, 41323), (87, 41311),

Gene: WunderPhul\_73 Start: 41477, Stop: 41220, Start Num: 42

Candidate Starts for WunderPhul\_73:

(Start: 42 @41477 has 50 MA's), (47, 41468), (69, 41393), (71, 41384), (76, 41351), (84, 41321), (87, 41309),

Gene: XianYue\_66 Start: 42239, Stop: 41988, Start Num: 45

Candidate Starts for XianYue\_66:

(31, 42275), (Start: 45 @42239 has 1 MA's), (65, 42197), (71, 42152), (76, 42119), (85, 42086), (87, 42077), (89, 42065),

Gene: Yecey3\_74 Start: 42420, Stop: 42151, Start Num: 52

Candidate Starts for Yecey3\_74:

(Start: 52 @42420 has 1 MA's), (69, 42324), (70, 42321), (79, 42267), (80, 42258), (89, 42228),

Gene: Yokurt\_72 Start: 41479, Stop: 41222, Start Num: 42

Candidate Starts for Yokurt\_72:

(Start: 42 @41479 has 50 MA's), (47, 41470), (69, 41395), (71, 41386), (76, 41353), (84, 41323), (87, 41311),

Gene: Zaka\_73 Start: 41479, Stop: 41222, Start Num: 42

Candidate Starts for Zaka\_73:

(Start: 42 @41479 has 50 MA's), (47, 41470), (69, 41395), (71, 41386), (76, 41353), (84, 41323), (87, 41311),

Gene: Zimmer\_68 Start: 43433, Stop: 43122, Start Num: 29

Candidate Starts for Zimmer\_68:

(Start: 28 @43436 has 1 MA's), (Start: 29 @43433 has 3 MA's), (Start: 54 @43385 has 1 MA's), (Start: 64 @43334 has 2 MA's), (69, 43295), (71, 43286), (76, 43253), (82, 43226), (97, 43148),

Gene: Zolita\_64 Start: 41874, Stop: 41623, Start Num: 50

Candidate Starts for Zolita\_64:

(Start: 50 @41874 has 37 MA's), (Start: 57 @41862 has 2 MA's), (69, 41790), (71, 41781), (72, 41766), (87, 41703), (93, 41658), (98, 41637), (100, 41631),

Gene: Zulu\_74 Start: 41857, Stop: 41600, Start Num: 42

Candidate Starts for Zulu\_74:

(Start: 42 @41857 has 50 MA's), (47, 41848), (69, 41773), (71, 41764), (76, 41731), (84, 41701), (87, 41689),