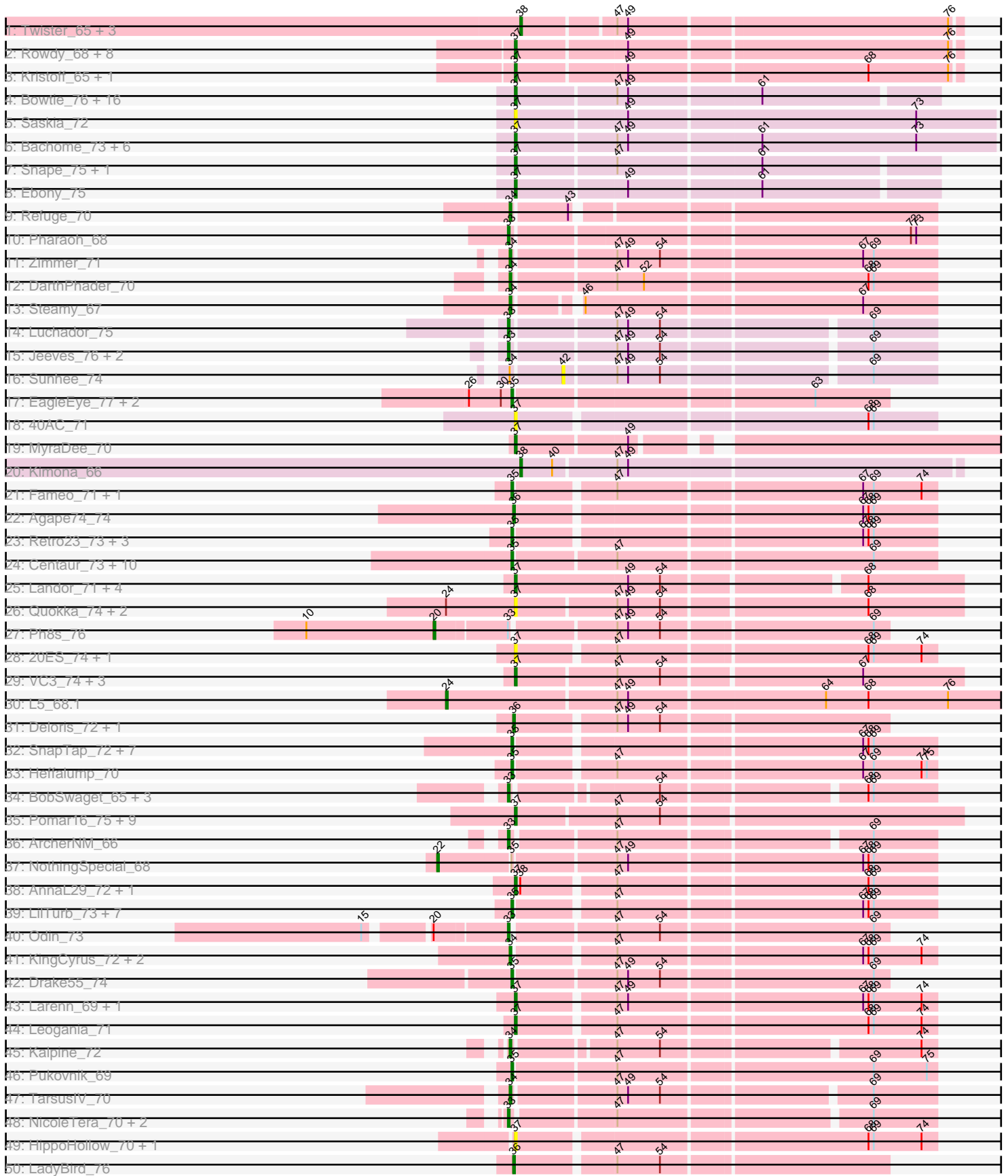
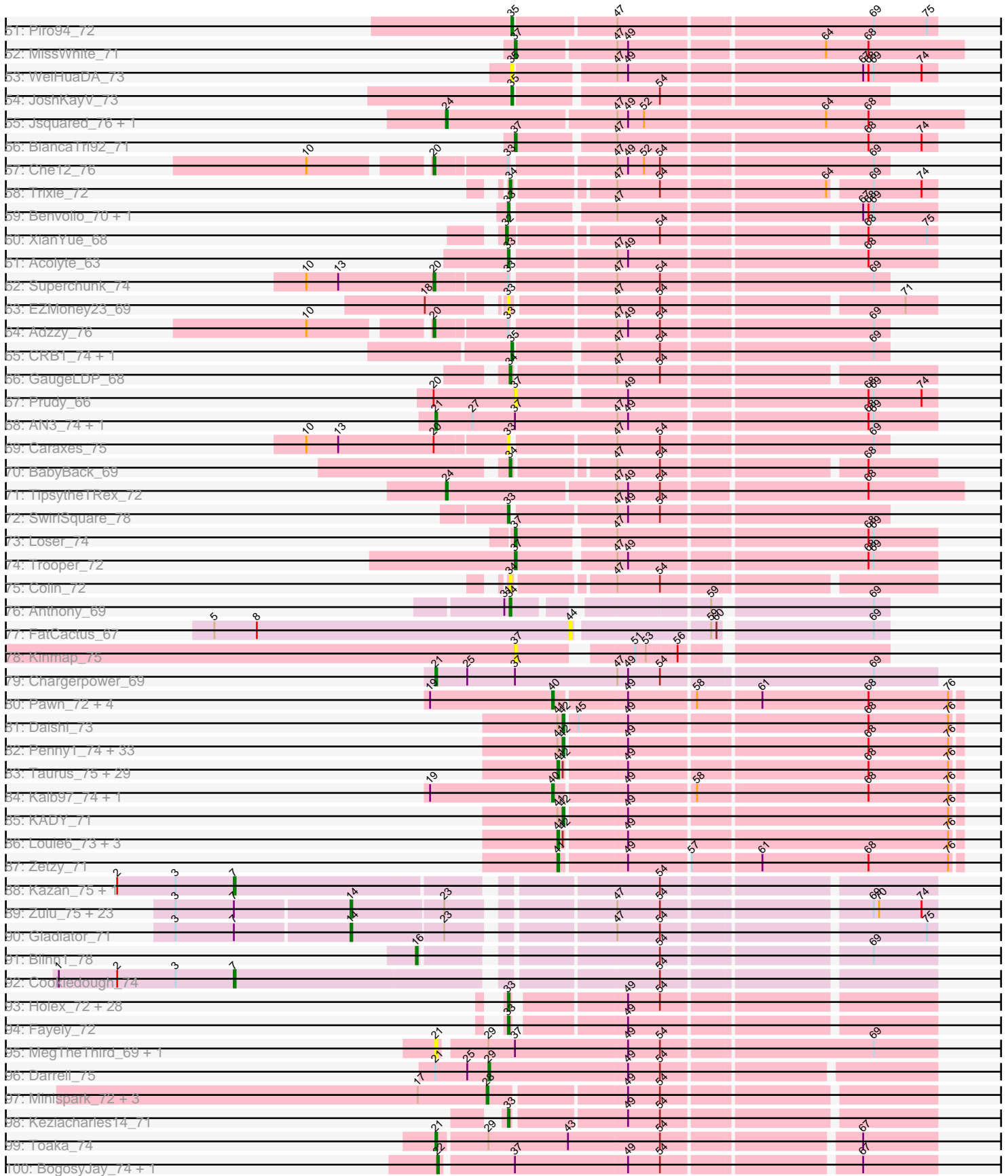


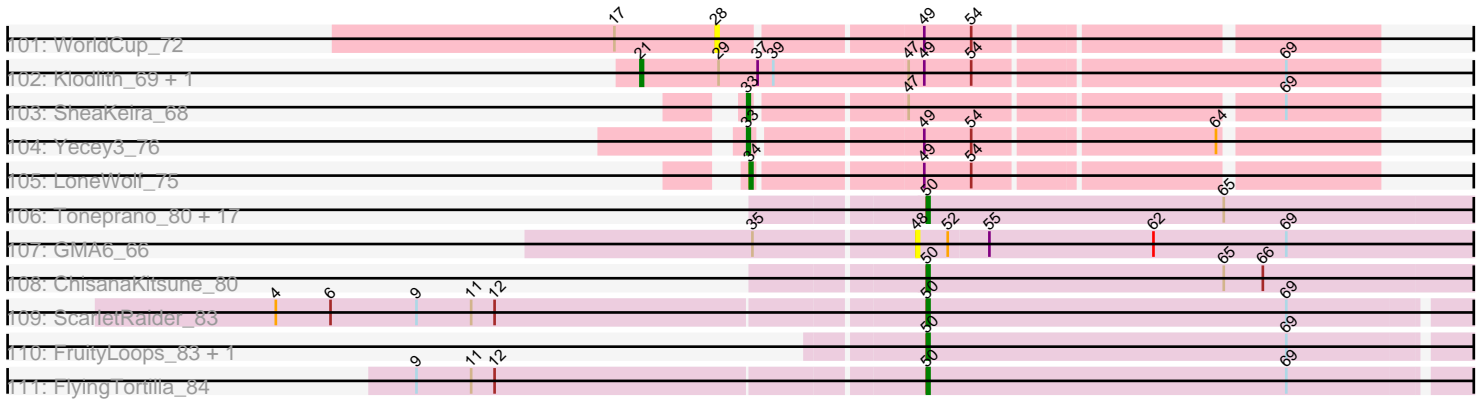
Pham 296152



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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 296152 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296152 has 358 members, 66 are drafts.

Phages represented in each track:

- Track 1 : Twister\_65, Topanga\_63, Edison31\_63, WalterMcMickey\_65
- Track 2 : Rowdy\_68, Severus\_64, Poompha\_63, Trike\_63, KittenMittens\_63, PeaceMeal1\_64, Shapes\_68, DustyMartin\_68, Drake94\_64
- Track 3 : Kristoff\_65, Rebeuca\_67
- Track 4 : Bowtie\_76, Et2Brutus\_74, Flaverint\_76, Joselito\_74, Fibonacci\_74, Mabel\_75, Timothy\_75, Jabith\_74, Lucivia\_76, Kimba\_72, Munch\_75, Aneem\_76, MaCh\_75, Wolpertinger\_73, Orange\_74, TinyTimmy\_73, Insomnia\_74
- Track 5 : Saskia\_72
- Track 6 : Bachome\_73, Sham4\_71, Gilberta\_72, Salz\_70, Hutc2\_70, Bud\_70, Petersenfast\_69
- Track 7 : Snape\_75, Mulciber\_73
- Track 8 : Ebony\_75
- Track 9 : Refuge\_70
- Track 10 : Pharaoh\_68
- Track 11 : Zimmer\_71
- Track 12 : DARTHPhader\_70
- Track 13 : Steamy\_67
- Track 14 : Luchador\_75
- Track 15 : Jeeves\_76, SororFago\_74, Gail\_74
- Track 16 : Sunhee\_74
- Track 17 : EagleEye\_77, PainterBoy\_75, Lucyedi\_76
- Track 18 : 40AC\_71
- Track 19 : MyraDee\_70
- Track 20 : Kimona\_66
- Track 21 : Fameo\_71, QueenB2\_70
- Track 22 : Agape74\_74
- Track 23 : Retro23\_73, Dalmatian\_73, Anselm\_74, DudeLittle\_71
- Track 24 : Centaur\_73, WideWale\_73, Gratitude\_70, Baehexic\_71, NaSiaTalie\_73, Terrific\_73, Flare16\_73, Updawg\_73, Equemioh13\_72, Sknot\_73, MiculUcigas\_73
- Track 25 : Landor\_71, Tristan\_69, IronMan\_70, Phaded\_68, Jaan\_71
- Track 26 : Quokka\_74, MajorMajor\_74, Bradman\_75
- Track 27 : Ph8s\_76
- Track 28 : 20ES\_74, First\_0073
- Track 29 : VC3\_74, AN9\_75, ANI8\_75, C3\_68
- Track 30 : L5\_68.1
- Track 31 : Deloris\_72, BengiVuitton\_72

- Track 32 : SnapTap\_72, Crucio\_73, QueenBeesly\_73, Georgie2\_74, FiringLine\_73, Power\_72, SemperFi\_73, SweetiePie\_72
- Track 33 : Heffalump\_70
- Track 34 : BobSwaget\_65, Rachaly\_68, Lokk\_66, Miko\_66
- Track 35 : Pomar16\_75, Naji\_75, D32\_74, Tomathan\_75, D29\_68.1, StarStuff\_75, Duplo\_75, Kerberos\_75, DBQu4n\_75, Travvers\_74
- Track 36 : ArcherNM\_66
- Track 37 : NothingSpecial\_68
- Track 38 : AnnaL29\_72, RedRock\_71
- Track 39 : LilTurb\_73, Turbido\_73, Bugsy\_74, Dignity\_74, Jerm\_74, Leviathan\_74, Smeagan\_75, Whabigail7\_73
- Track 40 : Odin\_73
- Track 41 : KingCyrus\_72, ChipMunk\_73, EvilGenius\_72
- Track 42 : Drake55\_74
- Track 43 : Larenn\_69, Malec\_70
- Track 44 : Leogania\_71
- Track 45 : Kalpine\_72
- Track 46 : Pukovnik\_69
- Track 47 : TarsusIV\_70
- Track 48 : NicoleTera\_70, Changeling\_71, ForesterFrank\_68
- Track 49 : HippoHollow\_70, LionsBait\_72
- Track 50 : LadyBird\_76
- Track 51 : Piro94\_72
- Track 52 : MissWhite\_71
- Track 53 : WeiHuaDA\_73
- Track 54 : JoshKayV\_73
- Track 55 : Jsquared\_76, Serenity\_76
- Track 56 : BiancaTri92\_71
- Track 57 : Che12\_76
- Track 58 : Trixie\_72
- Track 59 : Benvolio\_70, Echild\_73
- Track 60 : XianYue\_68
- Track 61 : Acolyte\_63
- Track 62 : Superchunk\_74
- Track 63 : EZMoney23\_69
- Track 64 : Adzzy\_76
- Track 65 : CRB1\_74, HarryHoudini\_73
- Track 66 : GaugeLDP\_68
- Track 67 : Prudy\_66
- Track 68 : AN3\_74, VA6\_72
- Track 69 : Caraxes\_75
- Track 70 : BabyBack\_69
- Track 71 : TopsytheTRex\_72
- Track 72 : SwirlSquare\_78
- Track 73 : Loser\_74
- Track 74 : Trooper\_72
- Track 75 : Colin\_72
- Track 76 : Anthony\_69
- Track 77 : FatCactus\_67
- Track 78 : Kinmap\_75
- Track 79 : Chargerpower\_69
- Track 80 : Pawn\_72, Kalnoky\_74, ACFishhook\_71, JeppNRM\_74, Marius\_74
- Track 81 : Daishi\_73

- Track 82 : Penny1\_74, Stagni\_71, Dieselweasel\_74, EpicPhail\_75, Montavir\_69, AgronaGT15\_71, Croquant\_71, Aglet\_75, AugsMagnumOpus\_77, Grub\_72, Pembroke\_74, Lilith\_72, Bxz2\_69, Gwennie\_69, Malinsilva\_76, SoYo\_71, Snickers\_74, Marie\_72, SoilDragon\_73, Beauxregard13\_73, Fernando\_74, MadMarie\_72, Watson\_73, PGHhamlin\_76, Lowa\_71, Bigflo\_71, Grif\_72, Ollie\_74, BreSam8\_74, HashRod\_75, Sabinator\_72, LarryKay\_74, GtownJaz\_74, MuchMore\_77
- Track 83 : Taurus\_75, MarQuardt\_74, Vix\_70, Jobu08\_70, GingkoMaracino\_74, Grum1\_73, Soshari\_76, Sabia\_72, Phoxy\_74, Hercules11\_74, LBerry\_75, Rummer\_73, Spike509\_74, JenCasNa\_75, Methuselah\_67, Mainiac\_73, Cullens\_74, Colbster\_70, LugYA\_77, PotatoSplit\_75, Tiffany\_73, Anubis\_77, JHC117\_70, P28Green\_74, Wooldri\_76, MoneyMay\_73, Microwolf\_70, Farber\_74, DaHudson\_73, Phoebe\_75
- Track 84 : Kalb97\_74, Groupthink\_74
- Track 85 : KADY\_71
- Track 86 : Louie6\_73, TinyPebbles\_73, BuzzBuzz\_68, Misomonster\_75
- Track 87 : Zetzy\_71
- Track 88 : Kazan\_75, SmellyB\_74
- Track 89 : Zulu\_75, Helmet\_76, Indra\_77, Roksolana\_74, Garak\_75, Lilbunny\_73, Temprado\_75, Zaka\_74, Jeffabunny\_74, Blue7\_75, BennyP\_73, Artemis2UCLA\_73, WunderPhul\_74, BlessJoy\_74, Hexamo\_73, Hammer\_74, Wiks\_73, Rifter\_74, Tucker\_74, ToneTone\_71, Koko\_75, Yokurt\_73, Gruunaga\_73, CloudWang3\_74
- Track 90 : Gladiator\_71
- Track 91 : Blinn1\_78
- Track 92 : Cookiedough\_74
- Track 93 : Holes\_72, Myxus\_74, Priya\_72, Catalina\_76, EdogawaKiddo\_72, Aliter\_75, Pioneer\_74, EmyBug\_71, Phonnegut\_74, Conquerage\_72, Alma\_72, Ayanochan\_72, HortumSL17\_75, PackMan\_73, Jiawan\_71, Ugenie5\_69, Tubs\_74, Spouty\_72, Qobbit\_72, Beemo\_74, Phaeder\_74, RyeScarlet\_75, Onglai\_72, Sachima\_70, ExplosioNervosa\_72, Scherzo\_73, Lilleskat\_71, Hanray\_72, Eidsmoe\_72
- Track 94 : Fayely\_72
- Track 95 : MegTheThird\_69, Celestialunch\_69
- Track 96 : Darrell\_75
- Track 97 : Minispark\_72, Bellris\_72, Rahalelujah\_74, CogOmlette\_72
- Track 98 : Keziacharles14\_71
- Track 99 : Toaka\_74
- Track 100 : BogosyJay\_74, Maminiaina\_74
- Track 101 : WorldCup\_72
- Track 102 : Klodlith\_69, Charm\_68
- Track 103 : SheaKeira\_68
- Track 104 : Yecey3\_76
- Track 105 : LoneWolf\_75
- Track 106 : Toneprano\_80, Lenoshki\_83, Farrylious\_80, Kabocha\_84, MintFritos\_79, Argena\_80, Chidiebere\_83, Oogie\_82, Gray\_83, Amoonguss\_80, Beted\_83, Schomber\_81, Twin\_78, EmoNemo\_78, Aloki\_78, Pakusa\_79, Mikronejon\_79, Hanem\_82
- Track 107 : GMA6\_66
- Track 108 : ChisanaKitsune\_80
- Track 109 : ScarletRaider\_83
- Track 110 : FruityLoops\_83, UBSmoodge\_86
- Track 111 : FlyingTortilla\_84

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

The start number called the most often in the published annotations is 37, it was called in 60 of the 292 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_74, 40AC\_71, AN9\_75, ANI8\_75, Aneem\_76, AnnaL29\_72, Bachome\_73, BiancaTri92\_71, Bowtie\_76, Bradman\_75, Bud\_70, C3\_68, D29\_68.1, D32\_74, DBQu4n\_75, Drake94\_64, Duplo\_75, DustyMartin\_68, Ebony\_75, Et2Brutus\_74, Fibonacci\_74, First\_0073, Flaverint\_76, Gilberta\_72, HippoHollow\_70, Hutc2\_70, Insomnia\_74, IronMan\_70, Jaan\_71, Jabith\_74, Joselito\_74, Kerberos\_75, Kimba\_72, Kinmap\_75, KittenMittens\_63, Kristoff\_65, Landor\_71, Larenn\_69, Leogania\_71, LionsBait\_72, Loser\_74, Lucivia\_76, MaCh\_75, Mabel\_75, MajorMajor\_74, Malec\_70, MissWhite\_71, Mulciber\_73, Munch\_75, MyraDee\_70, Naji\_75, Orange\_74, PeaceMeal1\_64, Petersenfast\_69, Phaded\_68, Pomar16\_75, Poompha\_63, Prudy\_66, Quokka\_74, Rebeuca\_67, RedRock\_71, Rowdy\_68, Salz\_70, Saskia\_72, Severus\_64, Sham4\_71, Shapes\_68, Snape\_75, StarStuff\_75, Timothy\_75, TinyTimmy\_73, Tomathan\_75, Travvers\_74, Trike\_63, Tristan\_69, Trooper\_72, VC3\_74, Wolpertinger\_73,

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

- AN3\_74, BogosyJay\_74, Celestiallunch\_69, Chargerpower\_69, Charm\_68, Klodlith\_69, Maminiaina\_74, MegTheThird\_69, VA6\_72,

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

- ACFishhook\_71, Acolyte\_63, Adzzy\_76, Agape74\_74, Aglet\_75, AgronaGT15\_71, Aliter\_75, Alma\_72, Aloki\_78, Amoonguss\_80, Anselm\_74, Anthony\_69, Anubis\_77, ArcherNM\_66, Argena\_80, Artemis2UCLA\_73, AugsMagnumOpus\_77, Ayanochan\_72, BabyBack\_69, Baehexic\_71, Beauxregard13\_73, Beemo\_74, Bellris\_72, BengiVuitton\_72, BennyP\_73, Benvolio\_70, Beted\_83, Bigflo\_71, BlessJoy\_74, Blinn1\_78, Blue7\_75, BobSwaget\_65, BreSam8\_74, Buggy\_74, BuzzBuzz\_68, Bxz2\_69, CRB1\_74, Caraxes\_75, Catalina\_76, Centaur\_73, Changeling\_71, Che12\_76, Chidiebere\_83, ChipMunk\_73, ChisanaKitsune\_80, CloudWang3\_74, CogOmlette\_72, Colbster\_70, Colin\_72, Conquerage\_72, Cookiedough\_74, Croquant\_71, Crucio\_73, Cullens\_74, DaHudson\_73, Daishi\_73, Dalmatian\_73, Darrell\_75, DarthPhader\_70, Deloris\_72, Dieselweasel\_74, Dignity\_74, Drake55\_74, DudeLittle\_71, EZMoney23\_69, EagleEye\_77, Echild\_73, Edison31\_63, EdogawaKiddo\_72, Eidsmoe\_72, EmoNemo\_78, EmyBug\_71, EpicPhail\_75, Equemioh13\_72, EvilGenius\_72, ExplosioNervosa\_72, Fameo\_71, Farber\_74, Farrylious\_80, FatCactus\_67, Fayely\_72, Fernando\_74, FiringLine\_73, Flare16\_73, FlyingTortilla\_84, ForesterFrank\_68, FruityLoops\_83, GMA6\_66, Gail\_74, Garak\_75, GaugeLDP\_68, Georgie2\_74, GingkoMaracino\_74, Gladiator\_71, Gratitude\_70, Gray\_83, Grif\_72, Groupthink\_74, Grub\_72, Grum1\_73, Gruunaga\_73, GtownJaz\_74, Gwennie\_69, Hammer\_74, Hanem\_82, Hanray\_72, HarryHoudini\_73, HashRod\_75, Heffalump\_70, Helmet\_76, Hercules11\_74, Hexamo\_73, Horex\_72, HortumSL17\_75, Indra\_77, JHC117\_70, Jeeves\_76, Jeffabunny\_74, JenCasNa\_75, JeppNRM\_74, Jerm\_74, Jiawan\_71, Jobu08\_70, JoshKayV\_73, Jsquared\_76, KADY\_71, Kabocha\_84, Kalb97\_74, Kalnoky\_74, Kalpine\_72, Kazan\_75, Keziacharles14\_71, Kimona\_66, KingCyrus\_72, Koko\_75, L5\_68.1, LBerry\_75, LadyBird\_76, LarryKay\_74, Lenoshki\_83, Leviathan\_74, LilTurb\_73, Lilbunny\_73,

Lilith\_72, Lilleskat\_71, Lokk\_66, LoneWolf\_75, Louie6\_73, Lowa\_71, Luchador\_75, Lucyedi\_76, LugYA\_77, MadMarie\_72, Mainiac\_73, Malinsilva\_76, MarQuardt\_74, Marie\_72, Marius\_74, Methuselah\_67, Microwolf\_70, MiculUcigas\_73, Miko\_66, Mikronejon\_79, Minispark\_72, MintFritos\_79, Misomonster\_75, MoneyMay\_73, Montavir\_69, MuchMore\_77, Myxus\_74, NaSiaTalie\_73, NicoleTera\_70, NothingSpecial\_68, Odin\_73, Ollie\_74, Onglai\_72, Oogie\_82, P28Green\_74, PGHhamlin\_76, PackMan\_73, PainterBoy\_75, Pakusa\_79, Pawn\_72, Pembroke\_74, Penny1\_74, Ph8s\_76, Phaeder\_74, Pharaoh\_68, Phoebe\_75, Phonnegut\_74, Phoxy\_74, Pioneer\_74, Piro94\_72, PotatoSplit\_75, Power\_72, Priya\_72, Pukovnik\_69, Qobbit\_72, QueenB2\_70, QueenBeesly\_73, Rachaly\_68, Rahalelujah\_74, Refuge\_70, Retro23\_73, Rifter\_74, Roksolana\_74, Rummer\_73, RyeScarlet\_75, Sabia\_72, Sabinator\_72, Sachima\_70, ScarletRaider\_83, Scherzo\_73, Schomber\_81, SemperFi\_73, Serenity\_76, SheaKeira\_68, Sknot\_73, Smeagan\_75, SmellyB\_74, SnapTap\_72, Snickers\_74, SoYo\_71, SoilDragon\_73, SororFago\_74, Soshari\_76, Spike509\_74, Spouty\_72, Stagni\_71, Steamy\_67, Sunhee\_74, Superchunk\_74, SweetiePie\_72, SwirlSquare\_78, TarsusIV\_70, Taurus\_75, Temprado\_75, Terrific\_73, Tiffany\_73, TinyPebbles\_73, TipsytheTRex\_72, Toaka\_74, ToneTone\_71, Toneprano\_80, Topanga\_63, Trixie\_72, Tubs\_74, Tucker\_74, Turbido\_73, Twin\_78, Twister\_65, UBSmoodge\_86, Ugenie5\_69, Updawg\_73, Vix\_70, WalterMcMickey\_65, Watson\_73, WeiHuaDA\_73, Whabigail7\_73, WideWale\_73, Wiks\_73, Wooldri\_76, WorldCup\_72, WunderPhul\_74, XianYue\_68, Yecey3\_76, Yokurt\_73, Zaka\_74, Zetzy\_71, Zimmer\_71, Zulu\_75,

### Summary by start number:

#### Start 7:

- Found in 28 of 358 ( 7.8% ) of genes in pham
- Manual Annotations of this start: 3 of 292
- Called 10.7% of time when present
- Phage (with cluster) where this start called: CookieDough\_74 (A6), Kazan\_75 (A6), SmellyB\_74 (A6),

#### Start 14:

- Found in 25 of 358 ( 7.0% ) of genes in pham
- Manual Annotations of this start: 23 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_73 (A6), BennyP\_73 (A6), BlessJoy\_74 (A6), Blue7\_75 (A6), CloudWang3\_74 (A6), Garak\_75 (A6), Gladiator\_71 (A6), Gruunaga\_73 (A6), Hammer\_74 (A6), Helmet\_76 (A6), Hexamo\_73 (A6), Indra\_77 (A6), Jeffabunny\_74 (A6), Koko\_75 (A6), Lilbunny\_73 (A6), Rifter\_74 (A6), Roksolana\_74 (A6), Temprado\_75 (A6), ToneTone\_71 (A6), Tucker\_74 (A6), Wiks\_73 (A6), WunderPhul\_74 (A6), Yokurt\_73 (A6), Zaka\_74 (A6), Zulu\_75 (A6),

#### Start 16:

- Found in 1 of 358 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blinn1\_78 (A6),

#### Start 20:

- Found in 7 of 358 ( 2.0% ) of genes in pham

- Manual Annotations of this start: 4 of 292
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Adzzy\_76 (A2), Che12\_76 (A2), Ph8s\_76 (A2), Superchunk\_74 (A2),

#### Start 21:

- Found in 9 of 358 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 5 of 292
- Called 88.9% of time when present
- Phage (with cluster) where this start called: AN3\_74 (A2), Celestialunch\_69 (A9), Chargerpower\_69 (A22), Charm\_68 (A9), Klodlith\_69 (A9), MegTheThird\_69 (A9), Toaka\_74 (A9), VA6\_72 (A2),

#### Start 22:

- Found in 3 of 358 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 3 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BogosyJay\_74 (A9), Maminaiaina\_74 (A9), NothingSpecial\_68 (A2),

#### Start 24:

- Found in 7 of 358 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 4 of 292
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Jsquared\_76 (A2), L5\_68.1 (A2), Serenity\_76 (A2), TipsytheTRex\_72 (A2),

#### Start 28:

- Found in 5 of 358 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bellris\_72 (A9), CogOmlette\_72 (A9), Minispark\_72 (A9), Rahalelujah\_74 (A9), WorldCup\_72 (A9),

#### Start 29:

- Found in 6 of 358 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 1 of 292
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Darrell\_75 (A9),

#### Start 32:

- Found in 1 of 358 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: XianYue\_68 (A2),

#### Start 33:

- Found in 57 of 358 ( 15.9% ) of genes in pham
- Manual Annotations of this start: 41 of 292
- Called 93.0% of time when present
- Phage (with cluster) where this start called: Acolyte\_63 (A2), Aliter\_75 (A9), Alma\_72 (A9), ArcherNM\_66 (A2), Ayanochan\_72 (A9), Beemo\_74 (A9), Benvolio\_70 (A2), BobSwaget\_65 (A2), Caraxes\_75 (A2), Catalina\_76 (A9), Changeling\_71 (A2),

Conquerage\_72 (A9), EZMoney23\_69 (A2), Echild\_73 (A2), EdogawaKiddo\_72 (A9), Eidsmoe\_72 (A9), EmyBug\_71 (A9), ExplosioNervosa\_72 (A9), Fayely\_72 (A9), ForesterFrank\_68 (A2), Gail\_74 (A14), Hanray\_72 (A9), Halex\_72 (A9), HortumSL17\_75 (A9), Jeeves\_76 (A14), Jiawan\_71 (A9), Keziacharles14\_71 (A9), Lilleskat\_71 (A9), Lokk\_66 (A2), Luchador\_75 (A14), Miko\_66 (A2), Myxus\_74 (A9), NicoleTera\_70 (A2), Odin\_73 (A2), Onglai\_72 (A9), PackMan\_73 (A9), Phaeder\_74 (A9), Pharaoh\_68 (A12), Phonnegut\_74 (A9), Pioneer\_74 (A9), Priya\_72 (A9), Qobbit\_72 (A9), Rachaly\_68 (A2), RyeScarlet\_75 (A9), Sachima\_70 (A9), Scherzo\_73 (A9), Sheakeira\_68 (A9), SororFago\_74 (A14), Spouty\_72 (A9), SwirlSquare\_78 (A2), Tubs\_74 (A9), Ugenie5\_69 (A9), Yecey3\_76 (A9),

#### Start 34:

- Found in 16 of 358 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 14 of 292
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Anthony\_69 (A20), BabyBack\_69 (A2), ChipMunk\_73 (A2), Colin\_72 (A2), DarthPhader\_70 (A12), EvilGenius\_72 (A2), GaugeLDP\_68 (A2), Kalpine\_72 (A2), KingCyrus\_72 (A2), LoneWolf\_75 (A9), Refuge\_70 (A12), Steamy\_67 (A12), TarsusIV\_70 (A2), Trixie\_72 (A2), Zimmer\_71 (A12),

#### Start 35:

- Found in 46 of 358 ( 12.8% ) of genes in pham
- Manual Annotations of this start: 40 of 292
- Called 95.7% of time when present
- Phage (with cluster) where this start called: Anselm\_74 (A2), Baehexic\_71 (A2), Buggy\_74 (A2), CRB1\_74 (A2), Centaur\_73 (A2), Crucio\_73 (A2), Dalmatian\_73 (A2), Dignity\_74 (A2), Drake55\_74 (A2), DudeLittle\_71 (A2), EagleEye\_77 (A16), Equemioh13\_72 (A2), Fameo\_71 (A2), FiringLine\_73 (A2), Flare16\_73 (A2), Georgie2\_74 (A2), Gratitude\_70 (A2), HarryHoudini\_73 (A2), Heffalump\_70 (A2), Jerm\_74 (A2), JoshKayV\_73 (A2), Leviathan\_74 (A2), LilTurb\_73 (A2), Lucyedi\_76 (A16), MiculUcigas\_73 (A2), NaSiaTalie\_73 (A2), PainterBoy\_75 (A16), Piro94\_72 (A2), Power\_72 (A2), Pukovnik\_69 (A2), QueenB2\_70 (A2), QueenBeesly\_73 (A2), Retro23\_73 (A2), SemperFi\_73 (A2), Sknot\_73 (A2), Smeagan\_75 (A2), SnapTap\_72 (A2), SweetiePie\_72 (A2), Terrific\_73 (A2), Turbido\_73 (A2), Updawg\_73 (A2), WeiHuaDA\_73 (A2), Whabigail7\_73 (A2), WideWale\_73 (A2),

#### Start 36:

- Found in 4 of 358 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 4 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agape74\_74 (A2), BengiVuitton\_72 (A2), Deloris\_72 (A2), LadyBird\_76 (A2),

#### Start 37:

- Found in 87 of 358 ( 24.3% ) of genes in pham
- Manual Annotations of this start: 60 of 292
- Called 89.7% of time when present
- Phage (with cluster) where this start called: 20ES\_74 (A2), 40AC\_71 (A17), AN9\_75 (A2), ANI8\_75 (A2), Aneem\_76 (A11), AnnaL29\_72 (A2), Bachome\_73 (A11), BiancaTri92\_71 (A2), Bowtie\_76 (A11), Bradman\_75 (A2), Bud\_70 (A11), C3\_68 (A2), D29\_68.1 (A2), D32\_74 (A2), DBQu4n\_75 (A2), Drake94\_64 (A10), Duplo\_75 (A2), DustyMartin\_68 (A10), Ebony\_75 (A11), Et2Brutus\_74 (A11), Fibonacci\_74

(A11), First\_0073 (A2), Flaverint\_76 (A11), Gilberta\_72 (A11), HippoHollow\_70 (A2), Hutc2\_70 (A11), Insomnia\_74 (A11), IronMan\_70 (A2), Jaan\_71 (A2), Jabith\_74 (A11), Joselito\_74 (A11), Kerberos\_75 (A2), Kimba\_72 (A11), Kinmap\_75 (A21), KittenMittens\_63 (A10), Kristoff\_65 (A10), Landor\_71 (A2), Larenn\_69 (A2), Leogania\_71 (A2), LionsBait\_72 (A2), Loser\_74 (A2), Lucivia\_76 (A11), MaCh\_75 (A11), Mabel\_75 (A11), MajorMajor\_74 (A2), Malec\_70 (A2), MissWhite\_71 (A2), Mulciber\_73 (A11), Munch\_75 (A11), MyraDee\_70 (A18), Naji\_75 (A2), Orange\_74 (A11), PeaceMeal1\_64 (A10), Petersenfast\_69 (A11), Phaded\_68 (A2), Pomar16\_75 (A2), Poompha\_63 (A10), Prudy\_66 (A2), Quokka\_74 (A2), Rebeuca\_67 (A10), RedRock\_71 (A2), Rowdy\_68 (A10), Salz\_70 (A11), Saskia\_72 (A11), Severus\_64 (A10), Sham4\_71 (A11), Shapes\_68 (A10), Snape\_75 (A11), StarStuff\_75 (A2), Timothy\_75 (A11), TinyTimmy\_73 (A11), Tomathan\_75 (A2), Travvers\_74 (A2), Trike\_63 (A10), Tristan\_69 (A2), Trooper\_72 (A2), VC3\_74 (A2), Wolpertinger\_73 (A11),

#### Start 38:

- Found in 7 of 358 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 5 of 292
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Edison31\_63 (A10), Kimona\_66 (A19), Topanga\_63 (A10), Twister\_65 (A10), WalterMcMickey\_65 (A10),

#### Start 40:

- Found in 8 of 358 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 7 of 292
- Called 87.5% of time when present
- Phage (with cluster) where this start called: ACFishhook\_71 (A3), Groupthink\_74 (A3), JeppNRM\_74 (A3), Kalb97\_74 (A3), Kalnoky\_74 (A3), Marius\_74 (A3), Pawn\_72 (A3),

#### Start 41:

- Found in 71 of 358 ( 19.8% ) of genes in pham
- Manual Annotations of this start: 35 of 292
- Called 49.3% of time when present
- Phage (with cluster) where this start called: Anubis\_77 (A3), BuzzBuzz\_68 (A3), Colbster\_70 (A3), Cullens\_74 (A3), DaHudson\_73 (A3), Farber\_74 (A3), GingkoMaracino\_74 (A3), Grum1\_73 (A3), Hercules11\_74 (A3), JHC117\_70 (A3), JenCasNa\_75 (A3), Jobu08\_70 (A3), LBerry\_75 (A3), Louie6\_73 (A3), LugYA\_77 (A3), Mainiac\_73 (A3), MarQuardt\_74 (A3), Methuselah\_67 (A3), Microwolf\_70 (A3), Misomonster\_75 (A3), MoneyMay\_73 (A3), P28Green\_74 (A3), Phoebe\_75 (A3), Phoxy\_74 (A3), PotatoSplit\_75 (A3), Rummer\_73 (A3), Sabia\_72 (A3), Soshari\_76 (A3), Spike509\_74 (A3), Taurus\_75 (A3), Tiffany\_73 (A3), TinyPebbles\_73 (A3), Vix\_70 (A3), Wooldri\_76 (A3), Zetzy\_71 (A3),

#### Start 42:

- Found in 71 of 358 ( 19.8% ) of genes in pham
- Manual Annotations of this start: 31 of 292
- Called 52.1% of time when present
- Phage (with cluster) where this start called: Aglet\_75 (A3), AgronaGT15\_71 (A3), AugsMagnumOpus\_77 (A3), Beauxregard13\_73 (A3), Bigflo\_71 (A3), BreSam8\_74 (A3), Bxz2\_69 (A3), Croquant\_71 (A3), Daishi\_73 (A3), Dieselweasel\_74 (A3), EpicPhail\_75 (A3), Fernando\_74 (A3), Grif\_72 (A3), Grub\_72 (A3), GtownJaz\_74 (A3), Gwennie\_69 (A3), HashRod\_75 (A3), KADY\_71 (A3), LarryKay\_74 (A3),

Lilith\_72 (A3), Lowa\_71 (A3), MadMarie\_72 (A3), Malinsilva\_76 (A3), Marie\_72 (A3), Montavir\_69 (A3), MuchMore\_77 (A3), Ollie\_74 (A3), PGHhamlin\_76 (A3), Pembroke\_74 (A3), Penny1\_74 (A3), Sabinator\_72 (A3), Snickers\_74 (A3), SoYo\_71 (A3), SoilDragon\_73 (A3), Stagni\_71 (A3), Sunhee\_74 (A14), Watson\_73 (A3),

Start 44:

- Found in 1 of 358 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FatCactus\_67 (A20),

Start 48:

- Found in 1 of 358 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA6\_66 (DQ),

Start 50:

- Found in 23 of 358 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 9 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alok\_i\_78 (DQ), Amoonguss\_80 (DQ), Argena\_80 (DQ), Beted\_83 (DQ), Chidiebere\_83 (DQ), ChisanaKitsune\_80 (DQ), EmoNemo\_78 (DQ), Farrylious\_80 (DQ), FlyingTortilla\_84 (DQ), FruityLoops\_83 (DQ), Gray\_83 (DQ), Hanem\_82 (DQ), Kabocha\_84 (DQ), Lenoshki\_83 (DQ), Mikronejon\_79 (DQ), MintFritos\_79 (DQ), Oogie\_82 (DQ), Pakusa\_79 (DQ), ScarletRaider\_83 (DQ), Schomber\_81 (DQ), Toneprano\_80 (DQ), Twin\_78 (DQ), UBSmoodge\_86 (DQ),

### **Summary by clusters:**

There are 16 clusters represented in this pham: A20, A14, A22, A16, A11, A10, A12, A19, A18, A21, A3, A2, A6, A9, A17, DQ,

Info for manual annotations of cluster A10:

- Start number 37 was manually annotated 8 times for cluster A10.
- Start number 38 was manually annotated 4 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 37 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 33 was manually annotated 1 time for cluster A12.
- Start number 34 was manually annotated 4 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 33 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 35 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 37 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 38 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 20 was manually annotated 4 times for cluster A2.
- Start number 21 was manually annotated 2 times for cluster A2.
- Start number 22 was manually annotated 1 time for cluster A2.
- Start number 24 was manually annotated 4 times for cluster A2.
- Start number 32 was manually annotated 1 time for cluster A2.
- Start number 33 was manually annotated 12 times for cluster A2.
- Start number 34 was manually annotated 8 times for cluster A2.
- Start number 35 was manually annotated 37 times for cluster A2.
- Start number 36 was manually annotated 4 times for cluster A2.
- Start number 37 was manually annotated 27 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 34 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A22:

- Start number 21 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A3:

- Start number 40 was manually annotated 7 times for cluster A3.
- Start number 41 was manually annotated 35 times for cluster A3.
- Start number 42 was manually annotated 31 times for cluster A3.

Info for manual annotations of cluster A6:

- Start number 7 was manually annotated 3 times for cluster A6.
- Start number 14 was manually annotated 23 times for cluster A6.
- Start number 16 was manually annotated 1 time for cluster A6.

Info for manual annotations of cluster A9:

- Start number 21 was manually annotated 2 times for cluster A9.
- Start number 22 was manually annotated 2 times for cluster A9.
- Start number 28 was manually annotated 1 time for cluster A9.
- Start number 29 was manually annotated 1 time for cluster A9.
- Start number 33 was manually annotated 24 times for cluster A9.
- Start number 34 was manually annotated 1 time for cluster A9.

Info for manual annotations of cluster DQ:

- Start number 50 was manually annotated 9 times for cluster DQ.

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

Gene: 20ES\_74 Start: 43517, Stop: 43293, Start Num: 37

Candidate Starts for 20ES\_74:

(Start: 37 @43517 has 60 MA's), (47, 43466), (68, 43331), (69, 43328), (74, 43301),

Gene: 40AC\_71 Start: 44020, Stop: 43796, Start Num: 37  
Candidate Starts for 40AC\_71:  
(Start: 37 @44020 has 60 MA's), (68, 43834), (69, 43831),

Gene: ACFishhook\_71 Start: 42736, Stop: 42518, Start Num: 40  
Candidate Starts for ACFishhook\_71:  
(19, 42805), (Start: 40 @42736 has 7 MA's), (49, 42697), (58, 42661), (61, 42628), (68, 42568), (76, 42523),

Gene: AN3\_74 Start: 42283, Stop: 42008, Start Num: 21  
Candidate Starts for AN3\_74:  
(Start: 21 @42283 has 5 MA's), (27, 42262), (Start: 37 @42238 has 60 MA's), (47, 42181), (49, 42175), (68, 42046), (69, 42043),

Gene: AN9\_75 Start: 43459, Stop: 43217, Start Num: 37  
Candidate Starts for AN9\_75:  
(Start: 37 @43459 has 60 MA's), (47, 43405), (54, 43381), (67, 43273),

Gene: ANI8\_75 Start: 43459, Stop: 43217, Start Num: 37  
Candidate Starts for ANI8\_75:  
(Start: 37 @43459 has 60 MA's), (47, 43405), (54, 43381), (67, 43273),

Gene: Acolyte\_63 Start: 41528, Stop: 41301, Start Num: 33  
Candidate Starts for Acolyte\_63:  
(Start: 33 @41528 has 41 MA's), (47, 41474), (49, 41468), (68, 41339),

Gene: Adzzy\_76 Start: 42404, Stop: 42165, Start Num: 20  
Candidate Starts for Adzzy\_76:  
(10, 42464), (Start: 20 @42404 has 4 MA's), (Start: 33 @42365 has 41 MA's), (47, 42311), (49, 42305), (54, 42287), (69, 42173),

Gene: Agape74\_74 Start: 43761, Stop: 43537, Start Num: 36  
Candidate Starts for Agape74\_74:  
(Start: 36 @43761 has 4 MA's), (67, 43578), (68, 43575), (69, 43572),

Gene: Aglet\_75 Start: 42842, Stop: 42630, Start Num: 42  
Candidate Starts for Aglet\_75:  
(Start: 41 @42845 has 35 MA's), (Start: 42 @42842 has 31 MA's), (49, 42809), (68, 42680), (76, 42635),

Gene: AgronaGT15\_71 Start: 42690, Stop: 42478, Start Num: 42  
Candidate Starts for AgronaGT15\_71:  
(Start: 41 @42693 has 35 MA's), (Start: 42 @42690 has 31 MA's), (49, 42657), (68, 42528), (76, 42483),

Gene: Aliter\_75 Start: 42851, Stop: 42633, Start Num: 33  
Candidate Starts for Aliter\_75:  
(Start: 33 @42851 has 41 MA's), (49, 42794), (54, 42776),

Gene: Alma\_72 Start: 42828, Stop: 42610, Start Num: 33  
Candidate Starts for Alma\_72:  
(Start: 33 @42828 has 41 MA's), (49, 42771), (54, 42753),

Gene: Alok\_i\_78 Start: 63735, Stop: 63947, Start Num: 50

Candidate Starts for Alok\_i\_78:

(Start: 50 @63735 has 9 MA's), (65, 63849),

Gene: Amoonguss\_80 Start: 63690, Stop: 63902, Start Num: 50

Candidate Starts for Amoonguss\_80:

(Start: 50 @63690 has 9 MA's), (65, 63804),

Gene: Aneem\_76 Start: 43515, Stop: 43288, Start Num: 37

Candidate Starts for Aneem\_76:

(Start: 37 @43515 has 60 MA's), (47, 43461), (49, 43455), (61, 43383),

Gene: AnnaL29\_72 Start: 43717, Stop: 43493, Start Num: 37

Candidate Starts for AnnaL29\_72:

(Start: 37 @43717 has 60 MA's), (Start: 38 @43714 has 5 MA's), (47, 43666), (68, 43531), (69, 43528),

Gene: Anselm\_74 Start: 43911, Stop: 43687, Start Num: 35

Candidate Starts for Anselm\_74:

(Start: 35 @43911 has 40 MA's), (67, 43728), (68, 43725), (69, 43722),

Gene: Anthony\_69 Start: 41982, Stop: 41797, Start Num: 34

Candidate Starts for Anthony\_69:

(31, 41985), (Start: 34 @41982 has 14 MA's), (59, 41889), (69, 41805),

Gene: Anubis\_77 Start: 42731, Stop: 42516, Start Num: 41

Candidate Starts for Anubis\_77:

(Start: 41 @42731 has 35 MA's), (Start: 42 @42728 has 31 MA's), (49, 42695), (68, 42566), (76, 42521),

Gene: ArcherNM\_66 Start: 42985, Stop: 42764, Start Num: 33

Candidate Starts for ArcherNM\_66:

(Start: 33 @42985 has 41 MA's), (47, 42931), (69, 42799),

Gene: Argena\_80 Start: 63702, Stop: 63914, Start Num: 50

Candidate Starts for Argena\_80:

(Start: 50 @63702 has 9 MA's), (65, 63816),

Gene: Artemis2UCLA\_73 Start: 41681, Stop: 41382, Start Num: 14

Candidate Starts for Artemis2UCLA\_73:

(3, 41777), (Start: 7 @41744 has 3 MA's), (Start: 14 @41681 has 23 MA's), (23, 41630), (47, 41549), (54, 41525), (69, 41417), (70, 41414), (74, 41390),

Gene: AugsMagnumOpus\_77 Start: 42833, Stop: 42621, Start Num: 42

Candidate Starts for AugsMagnumOpus\_77:

(Start: 41 @42836 has 35 MA's), (Start: 42 @42833 has 31 MA's), (49, 42800), (68, 42671), (76, 42626),

Gene: Ayanochan\_72 Start: 42614, Stop: 42396, Start Num: 33

Candidate Starts for Ayanochan\_72:

(Start: 33 @42614 has 41 MA's), (49, 42557), (54, 42539),

Gene: BabyBack\_69 Start: 43490, Stop: 43272, Start Num: 34

Candidate Starts for BabyBack\_69:

(Start: 34 @43490 has 14 MA's), (47, 43439), (54, 43415), (68, 43310),

Gene: Bachome\_73 Start: 42394, Stop: 42131, Start Num: 37

Candidate Starts for Bachome\_73:

(Start: 37 @42394 has 60 MA's), (47, 42340), (49, 42334), (61, 42262), (73, 42175),

Gene: Baehexic\_71 Start: 43242, Stop: 43015, Start Num: 35

Candidate Starts for Baehexic\_71:

(Start: 35 @43242 has 40 MA's), (47, 43188), (69, 43050),

Gene: Beauxregard13\_73 Start: 42845, Stop: 42633, Start Num: 42

Candidate Starts for Beauxregard13\_73:

(Start: 41 @42848 has 35 MA's), (Start: 42 @42845 has 31 MA's), (49, 42812), (68, 42683), (76, 42638),

Gene: Beemo\_74 Start: 42869, Stop: 42651, Start Num: 33

Candidate Starts for Beemo\_74:

(Start: 33 @42869 has 41 MA's), (49, 42812), (54, 42794),

Gene: Bellris\_72 Start: 42751, Stop: 42518, Start Num: 28

Candidate Starts for Bellris\_72:

(17, 42790), (Start: 28 @42751 has 1 MA's), (49, 42679), (54, 42661),

Gene: BengiVuitton\_72 Start: 43467, Stop: 43270, Start Num: 36

Candidate Starts for BengiVuitton\_72:

(Start: 36 @43467 has 4 MA's), (47, 43416), (49, 43410), (54, 43392),

Gene: BennyP\_73 Start: 41847, Stop: 41548, Start Num: 14

Candidate Starts for BennyP\_73:

(3, 41943), (Start: 7 @41910 has 3 MA's), (Start: 14 @41847 has 23 MA's), (23, 41796), (47, 41715), (54, 41691), (69, 41583), (70, 41580), (74, 41556),

Gene: Benvolio\_70 Start: 43151, Stop: 42927, Start Num: 33

Candidate Starts for Benvolio\_70:

(Start: 33 @43151 has 41 MA's), (47, 43100), (67, 42968), (68, 42965), (69, 42962),

Gene: Beted\_83 Start: 65841, Stop: 66053, Start Num: 50

Candidate Starts for Beted\_83:

(Start: 50 @65841 has 9 MA's), (65, 65955),

Gene: BiancaTri92\_71 Start: 43505, Stop: 43281, Start Num: 37

Candidate Starts for BiancaTri92\_71:

(Start: 37 @43505 has 60 MA's), (47, 43454), (68, 43319), (74, 43289),

Gene: Bigflo\_71 Start: 42841, Stop: 42629, Start Num: 42

Candidate Starts for Bigflo\_71:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: BlessJoy\_74 Start: 42203, Stop: 41904, Start Num: 14

Candidate Starts for BlessJoy\_74:

(3, 42299), (Start: 7 @42266 has 3 MA's), (Start: 14 @42203 has 23 MA's), (23, 42152), (47, 42071), (54, 42047), (69, 41939), (70, 41936), (74, 41912),

Gene: Blinn1\_78 Start: 42893, Stop: 42633, Start Num: 16

Candidate Starts for Blinn1\_78:

(Start: 16 @42893 has 1 MA's), (54, 42776), (69, 42668),

Gene: Blue7\_75 Start: 41901, Stop: 41602, Start Num: 14

Candidate Starts for Blue7\_75:

(3, 41997), (Start: 7 @41964 has 3 MA's), (Start: 14 @41901 has 23 MA's), (23, 41850), (47, 41769), (54, 41745), (69, 41637), (70, 41634), (74, 41610),

Gene: BobSwaget\_65 Start: 41376, Stop: 41158, Start Num: 33

Candidate Starts for BobSwaget\_65:

(Start: 33 @41376 has 41 MA's), (54, 41301), (68, 41196), (69, 41193),

Gene: BogosyJay\_74 Start: 43112, Stop: 42849, Start Num: 22

Candidate Starts for BogosyJay\_74:

(Start: 22 @43112 has 3 MA's), (Start: 37 @43073 has 60 MA's), (49, 43010), (54, 42992), (67, 42890),

Gene: Bowtie\_76 Start: 43522, Stop: 43295, Start Num: 37

Candidate Starts for Bowtie\_76:

(Start: 37 @43522 has 60 MA's), (47, 43468), (49, 43462), (61, 43390),

Gene: Bradman\_75 Start: 42863, Stop: 42621, Start Num: 37

Candidate Starts for Bradman\_75:

(Start: 24 @42902 has 4 MA's), (Start: 37 @42863 has 60 MA's), (47, 42809), (49, 42803), (54, 42785), (68, 42674),

Gene: BreSam8\_74 Start: 42835, Stop: 42623, Start Num: 42

Candidate Starts for BreSam8\_74:

(Start: 41 @42838 has 35 MA's), (Start: 42 @42835 has 31 MA's), (49, 42802), (68, 42673), (76, 42628),

Gene: Bud\_70 Start: 41952, Stop: 41689, Start Num: 37

Candidate Starts for Bud\_70:

(Start: 37 @41952 has 60 MA's), (47, 41898), (49, 41892), (61, 41820), (73, 41733),

Gene: Buggy\_74 Start: 43814, Stop: 43590, Start Num: 35

Candidate Starts for Buggy\_74:

(Start: 35 @43814 has 40 MA's), (47, 43763), (67, 43631), (68, 43628), (69, 43625),

Gene: BuzzBuzz\_68 Start: 42872, Stop: 42657, Start Num: 41

Candidate Starts for BuzzBuzz\_68:

(Start: 41 @42872 has 35 MA's), (Start: 42 @42869 has 31 MA's), (49, 42836), (76, 42662),

Gene: Bxz2\_69 Start: 42876, Stop: 42664, Start Num: 42

Candidate Starts for Bxz2\_69:

(Start: 41 @42879 has 35 MA's), (Start: 42 @42876 has 31 MA's), (49, 42843), (68, 42714), (76, 42669),

Gene: C3\_68 Start: 43459, Stop: 43217, Start Num: 37

Candidate Starts for C3\_68:

(Start: 37 @43459 has 60 MA's), (47, 43405), (54, 43381), (67, 43273),

Gene: CRB1\_74 Start: 44013, Stop: 43816, Start Num: 35  
Candidate Starts for CRB1\_74:  
(Start: 35 @44013 has 40 MA's), (47, 43962), (54, 43938), (69, 43824),

Gene: Caraxes\_75 Start: 42129, Stop: 41929, Start Num: 33  
Candidate Starts for Caraxes\_75:  
(10, 42240), (13, 42222), (Start: 20 @42168 has 4 MA's), (Start: 33 @42129 has 41 MA's), (47, 42075),  
(54, 42051), (69, 41937),

Gene: Catalina\_76 Start: 42925, Stop: 42707, Start Num: 33  
Candidate Starts for Catalina\_76:  
(Start: 33 @42925 has 41 MA's), (49, 42868), (54, 42850),

Gene: Celestiallunch\_69 Start: 42045, Stop: 41776, Start Num: 21  
Candidate Starts for Celestiallunch\_69:  
(Start: 21 @42045 has 5 MA's), (Start: 29 @42021 has 1 MA's), (Start: 37 @42006 has 60 MA's), (49,  
41943), (54, 41925), (69, 41811),

Gene: Centaur\_73 Start: 43457, Stop: 43230, Start Num: 35  
Candidate Starts for Centaur\_73:  
(Start: 35 @43457 has 40 MA's), (47, 43403), (69, 43265),

Gene: Changeling\_71 Start: 43693, Stop: 43472, Start Num: 33  
Candidate Starts for Changeling\_71:  
(Start: 33 @43693 has 41 MA's), (47, 43639), (69, 43507),

Gene: Chargerpower\_69 Start: 41165, Stop: 40890, Start Num: 21  
Candidate Starts for Chargerpower\_69:  
(Start: 21 @41165 has 5 MA's), (25, 41147), (Start: 37 @41120 has 60 MA's), (47, 41063), (49, 41057),  
(54, 41039), (69, 40925),

Gene: Charm\_68 Start: 41975, Stop: 41700, Start Num: 21  
Candidate Starts for Charm\_68:  
(Start: 21 @41975 has 5 MA's), (Start: 29 @41945 has 1 MA's), (Start: 37 @41930 has 60 MA's), (39,  
41924), (47, 41873), (49, 41867), (54, 41849), (69, 41735),

Gene: Che12\_76 Start: 42288, Stop: 42049, Start Num: 20  
Candidate Starts for Che12\_76:  
(10, 42348), (Start: 20 @42288 has 4 MA's), (Start: 33 @42249 has 41 MA's), (47, 42195), (49, 42189),  
(52, 42180), (54, 42171), (69, 42057),

Gene: Chidiebere\_83 Start: 64268, Stop: 64480, Start Num: 50  
Candidate Starts for Chidiebere\_83:  
(Start: 50 @64268 has 9 MA's), (65, 64382),

Gene: ChipMunk\_73 Start: 44854, Stop: 44630, Start Num: 34  
Candidate Starts for ChipMunk\_73:  
(Start: 34 @44854 has 14 MA's), (47, 44803), (67, 44671), (68, 44668), (69, 44665), (74, 44638),

Gene: ChisanaKitsune\_80 Start: 63445, Stop: 63657, Start Num: 50  
Candidate Starts for ChisanaKitsune\_80:  
(Start: 50 @63445 has 9 MA's), (65, 63559), (66, 63574),

Gene: CloudWang3\_74 Start: 42193, Stop: 41894, Start Num: 14  
Candidate Starts for CloudWang3\_74:  
(3, 42289), (Start: 7 @42256 has 3 MA's), (Start: 14 @42193 has 23 MA's), (23, 42142), (47, 42061),  
(54, 42037), (69, 41929), (70, 41926), (74, 41902),

Gene: CogOmlette\_72 Start: 42748, Stop: 42515, Start Num: 28  
Candidate Starts for CogOmlette\_72:  
(17, 42787), (Start: 28 @42748 has 1 MA's), (49, 42676), (54, 42658),

Gene: Colbster\_70 Start: 42848, Stop: 42633, Start Num: 41  
Candidate Starts for Colbster\_70:  
(Start: 41 @42848 has 35 MA's), (Start: 42 @42845 has 31 MA's), (49, 42812), (68, 42683), (76,  
42638),

Gene: Colin\_72 Start: 44437, Stop: 44219, Start Num: 34  
Candidate Starts for Colin\_72:  
(Start: 34 @44437 has 14 MA's), (47, 44386), (54, 44362),

Gene: Conquerage\_72 Start: 42600, Stop: 42382, Start Num: 33  
Candidate Starts for Conquerage\_72:  
(Start: 33 @42600 has 41 MA's), (49, 42543), (54, 42525),

Gene: Cookiedough\_74 Start: 42687, Stop: 42322, Start Num: 7  
Candidate Starts for Cookiedough\_74:  
(1, 42786), (2, 42753), (3, 42720), (Start: 7 @42687 has 3 MA's), (54, 42465),

Gene: Croquant\_71 Start: 42839, Stop: 42627, Start Num: 42  
Candidate Starts for Croquant\_71:  
(Start: 41 @42842 has 35 MA's), (Start: 42 @42839 has 31 MA's), (49, 42806), (68, 42677), (76,  
42632),

Gene: Crucio\_73 Start: 43811, Stop: 43587, Start Num: 35  
Candidate Starts for Crucio\_73:  
(Start: 35 @43811 has 40 MA's), (67, 43628), (68, 43625), (69, 43622),

Gene: Cullens\_74 Start: 42844, Stop: 42629, Start Num: 41  
Candidate Starts for Cullens\_74:  
(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76,  
42634),

Gene: D29\_68.1 Start: 44004, Stop: 43762, Start Num: 37  
Candidate Starts for D29\_68.1:  
(Start: 37 @44004 has 60 MA's), (47, 43950), (54, 43926),

Gene: D32\_74 Start: 44004, Stop: 43762, Start Num: 37  
Candidate Starts for D32\_74:  
(Start: 37 @44004 has 60 MA's), (47, 43950), (54, 43926),

Gene: DBQu4n\_75 Start: 43984, Stop: 43742, Start Num: 37  
Candidate Starts for DBQu4n\_75:  
(Start: 37 @43984 has 60 MA's), (47, 43930), (54, 43906),

Gene: DaHudson\_73 Start: 42837, Stop: 42622, Start Num: 41

Candidate Starts for DaHudson\_73:

(Start: 41 @42837 has 35 MA's), (Start: 42 @42834 has 31 MA's), (49, 42801), (68, 42672), (76, 42627),

Gene: Daishi\_73 Start: 41709, Stop: 41497, Start Num: 42

Candidate Starts for Daishi\_73:

(Start: 41 @41712 has 35 MA's), (Start: 42 @41709 has 31 MA's), (45, 41703), (49, 41676), (68, 41547), (76, 41502),

Gene: Dalmatian\_73 Start: 43630, Stop: 43406, Start Num: 35

Candidate Starts for Dalmatian\_73:

(Start: 35 @43630 has 40 MA's), (67, 43447), (68, 43444), (69, 43441),

Gene: Darrell\_75 Start: 43432, Stop: 43193, Start Num: 29

Candidate Starts for Darrell\_75:

(Start: 21 @43462 has 5 MA's), (25, 43444), (Start: 29 @43432 has 1 MA's), (49, 43354), (54, 43336),

Gene: DARTHPhader\_70 Start: 44013, Stop: 43786, Start Num: 34

Candidate Starts for DARTHPhader\_70:

(Start: 34 @44013 has 14 MA's), (47, 43959), (52, 43944), (68, 43824), (69, 43821),

Gene: Deloris\_72 Start: 43163, Stop: 42966, Start Num: 36

Candidate Starts for Deloris\_72:

(Start: 36 @43163 has 4 MA's), (47, 43112), (49, 43106), (54, 43088),

Gene: Dieselweasel\_74 Start: 42843, Stop: 42631, Start Num: 42

Candidate Starts for Dieselweasel\_74:

(Start: 41 @42846 has 35 MA's), (Start: 42 @42843 has 31 MA's), (49, 42810), (68, 42681), (76, 42636),

Gene: Dignity\_74 Start: 43852, Stop: 43628, Start Num: 35

Candidate Starts for Dignity\_74:

(Start: 35 @43852 has 40 MA's), (47, 43801), (67, 43669), (68, 43666), (69, 43663),

Gene: Drake55\_74 Start: 43531, Stop: 43331, Start Num: 35

Candidate Starts for Drake55\_74:

(Start: 35 @43531 has 40 MA's), (47, 43477), (49, 43471), (54, 43453), (69, 43339),

Gene: Drake94\_64 Start: 40814, Stop: 40575, Start Num: 37

Candidate Starts for Drake94\_64:

(Start: 37 @40814 has 60 MA's), (49, 40754), (76, 40580),

Gene: DudeLittle\_71 Start: 43396, Stop: 43172, Start Num: 35

Candidate Starts for DudeLittle\_71:

(Start: 35 @43396 has 40 MA's), (67, 43213), (68, 43210), (69, 43207),

Gene: Duplo\_75 Start: 44041, Stop: 43799, Start Num: 37

Candidate Starts for Duplo\_75:

(Start: 37 @44041 has 60 MA's), (47, 43987), (54, 43963),

Gene: DustyMartin\_68 Start: 41850, Stop: 41611, Start Num: 37

Candidate Starts for DustyMartin\_68:

(Start: 37 @41850 has 60 MA's), (49, 41790), (76, 41616),

Gene: EZMoney23\_69 Start: 43235, Stop: 43014, Start Num: 33  
Candidate Starts for EZMoney23\_69:  
(18, 43271), (Start: 33 @43235 has 41 MA's), (47, 43181), (54, 43157), (71, 43031),

Gene: EagleEye\_77 Start: 43527, Stop: 43327, Start Num: 35  
Candidate Starts for EagleEye\_77:  
(26, 43551), (30, 43533), (Start: 35 @43527 has 40 MA's), (63, 43368),

Gene: Ebony\_75 Start: 43086, Stop: 42859, Start Num: 37  
Candidate Starts for Ebony\_75:  
(Start: 37 @43086 has 60 MA's), (49, 43026), (61, 42954),

Gene: Echild\_73 Start: 43175, Stop: 42951, Start Num: 33  
Candidate Starts for Echild\_73:  
(Start: 33 @43175 has 41 MA's), (47, 43124), (67, 42992), (68, 42989), (69, 42986),

Gene: Edison31\_63 Start: 41608, Stop: 41375, Start Num: 38  
Candidate Starts for Edison31\_63:  
(Start: 38 @41608 has 5 MA's), (47, 41560), (49, 41554), (76, 41380),

Gene: EdogawaKiddo\_72 Start: 42891, Stop: 42673, Start Num: 33  
Candidate Starts for EdogawaKiddo\_72:  
(Start: 33 @42891 has 41 MA's), (49, 42834), (54, 42816),

Gene: Eidsmoe\_72 Start: 42592, Stop: 42374, Start Num: 33  
Candidate Starts for Eidsmoe\_72:  
(Start: 33 @42592 has 41 MA's), (49, 42535), (54, 42517),

Gene: EmoNemo\_78 Start: 63735, Stop: 63947, Start Num: 50  
Candidate Starts for EmoNemo\_78:  
(Start: 50 @63735 has 9 MA's), (65, 63849),

Gene: EmyBug\_71 Start: 42594, Stop: 42376, Start Num: 33  
Candidate Starts for EmyBug\_71:  
(Start: 33 @42594 has 41 MA's), (49, 42537), (54, 42519),

Gene: EpicPhail\_75 Start: 42845, Stop: 42633, Start Num: 42  
Candidate Starts for EpicPhail\_75:  
(Start: 41 @42848 has 35 MA's), (Start: 42 @42845 has 31 MA's), (49, 42812), (68, 42683), (76, 42638),

Gene: Equemioh13\_72 Start: 43362, Stop: 43135, Start Num: 35  
Candidate Starts for Equemioh13\_72:  
(Start: 35 @43362 has 40 MA's), (47, 43308), (69, 43170),

Gene: Et2Brutus\_74 Start: 43049, Stop: 42822, Start Num: 37  
Candidate Starts for Et2Brutus\_74:  
(Start: 37 @43049 has 60 MA's), (47, 42995), (49, 42989), (61, 42917),

Gene: EvilGenius\_72 Start: 44855, Stop: 44631, Start Num: 34  
Candidate Starts for EvilGenius\_72:  
(Start: 34 @44855 has 14 MA's), (47, 44804), (67, 44672), (68, 44669), (69, 44666), (74, 44639),

Gene: ExplosioNervosa\_72 Start: 42660, Stop: 42442, Start Num: 33

Candidate Starts for ExplosioNervosa\_72:

(Start: 33 @42660 has 41 MA's), (49, 42603), (54, 42585),

Gene: Fameo\_71 Start: 43438, Stop: 43214, Start Num: 35

Candidate Starts for Fameo\_71:

(Start: 35 @43438 has 40 MA's), (47, 43387), (67, 43255), (69, 43249), (74, 43222),

Gene: Farber\_74 Start: 42834, Stop: 42619, Start Num: 41

Candidate Starts for Farber\_74:

(Start: 41 @42834 has 35 MA's), (Start: 42 @42831 has 31 MA's), (49, 42798), (68, 42669), (76, 42624),

Gene: Farrylious\_80 Start: 63466, Stop: 63678, Start Num: 50

Candidate Starts for Farrylious\_80:

(Start: 50 @63466 has 9 MA's), (65, 63580),

Gene: FatCactus\_67 Start: 41591, Stop: 41430, Start Num: 44

Candidate Starts for FatCactus\_67:

(5, 41792), (8, 41768), (44, 41591), (59, 41522), (60, 41519), (69, 41438),

Gene: Fayely\_72 Start: 42561, Stop: 42343, Start Num: 33

Candidate Starts for Fayely\_72:

(Start: 33 @42561 has 41 MA's), (49, 42504),

Gene: Fernando\_74 Start: 42841, Stop: 42629, Start Num: 42

Candidate Starts for Fernando\_74:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: Fibonacci\_74 Start: 43055, Stop: 42828, Start Num: 37

Candidate Starts for Fibonacci\_74:

(Start: 37 @43055 has 60 MA's), (47, 43001), (49, 42995), (61, 42923),

Gene: FiringLine\_73 Start: 43793, Stop: 43569, Start Num: 35

Candidate Starts for FiringLine\_73:

(Start: 35 @43793 has 40 MA's), (67, 43610), (68, 43607), (69, 43604),

Gene: First\_0073 Start: 43417, Stop: 43193, Start Num: 37

Candidate Starts for First\_0073:

(Start: 37 @43417 has 60 MA's), (47, 43366), (68, 43231), (69, 43228), (74, 43201),

Gene: Flare16\_73 Start: 43501, Stop: 43274, Start Num: 35

Candidate Starts for Flare16\_73:

(Start: 35 @43501 has 40 MA's), (47, 43447), (69, 43309),

Gene: Flaverint\_76 Start: 43513, Stop: 43286, Start Num: 37

Candidate Starts for Flaverint\_76:

(Start: 37 @43513 has 60 MA's), (47, 43459), (49, 43453), (61, 43381),

Gene: FlyingTortilla\_84 Start: 67913, Stop: 68119, Start Num: 50

Candidate Starts for FlyingTortilla\_84:

(9, 67724), (11, 67745), (12, 67754), (Start: 50 @67913 has 9 MA's), (69, 68051),

Gene: ForesterFrank\_68 Start: 43507, Stop: 43286, Start Num: 33

Candidate Starts for ForesterFrank\_68:

(Start: 33 @43507 has 41 MA's), (47, 43453), (69, 43321),

Gene: FruityLoops\_83 Start: 67214, Stop: 67420, Start Num: 50

Candidate Starts for FruityLoops\_83:

(Start: 50 @67214 has 9 MA's), (69, 67352),

Gene: GMA6\_66 Start: 54553, Stop: 54771, Start Num: 48

Candidate Starts for GMA6\_66:

(Start: 35 @54493 has 40 MA's), (48, 54553), (52, 54565), (55, 54580), (62, 54643), (69, 54694),

Gene: Gail\_74 Start: 43840, Stop: 43619, Start Num: 33

Candidate Starts for Gail\_74:

(Start: 33 @43840 has 41 MA's), (47, 43786), (49, 43780), (54, 43762), (69, 43654),

Gene: Garak\_75 Start: 42144, Stop: 41845, Start Num: 14

Candidate Starts for Garak\_75:

(3, 42240), (Start: 7 @42207 has 3 MA's), (Start: 14 @42144 has 23 MA's), (23, 42093), (47, 42012), (54, 41988), (69, 41880), (70, 41877), (74, 41853),

Gene: GaugeLDP\_68 Start: 43061, Stop: 42840, Start Num: 34

Candidate Starts for GaugeLDP\_68:

(Start: 34 @43061 has 14 MA's), (47, 43007), (54, 42983),

Gene: Georgie2\_74 Start: 43838, Stop: 43614, Start Num: 35

Candidate Starts for Georgie2\_74:

(Start: 35 @43838 has 40 MA's), (67, 43655), (68, 43652), (69, 43649),

Gene: Gilberta\_72 Start: 42389, Stop: 42126, Start Num: 37

Candidate Starts for Gilberta\_72:

(Start: 37 @42389 has 60 MA's), (47, 42335), (49, 42329), (61, 42257), (73, 42170),

Gene: GingkoMaracino\_74 Start: 42730, Stop: 42515, Start Num: 41

Candidate Starts for GingkoMaracino\_74:

(Start: 41 @42730 has 35 MA's), (Start: 42 @42727 has 31 MA's), (49, 42694), (68, 42565), (76, 42520),

Gene: Gladiator\_71 Start: 42047, Stop: 41748, Start Num: 14

Candidate Starts for Gladiator\_71:

(3, 42143), (Start: 7 @42110 has 3 MA's), (Start: 14 @42047 has 23 MA's), (23, 41996), (47, 41915), (54, 41891), (75, 41753),

Gene: Gratitude\_70 Start: 43362, Stop: 43135, Start Num: 35

Candidate Starts for Gratitude\_70:

(Start: 35 @43362 has 40 MA's), (47, 43308), (69, 43170),

Gene: Gray\_83 Start: 64199, Stop: 64411, Start Num: 50

Candidate Starts for Gray\_83:

(Start: 50 @64199 has 9 MA's), (65, 64313),

Gene: Grif\_72 Start: 42915, Stop: 42703, Start Num: 42

Candidate Starts for Grif\_72:

(Start: 41 @42918 has 35 MA's), (Start: 42 @42915 has 31 MA's), (49, 42882), (68, 42753), (76, 42708),

Gene: Groupthink\_74 Start: 42664, Stop: 42446, Start Num: 40

Candidate Starts for Groupthink\_74:

(19, 42733), (Start: 40 @42664 has 7 MA's), (49, 42625), (58, 42589), (68, 42496), (76, 42451),

Gene: Grub\_72 Start: 42833, Stop: 42621, Start Num: 42

Candidate Starts for Grub\_72:

(Start: 41 @42836 has 35 MA's), (Start: 42 @42833 has 31 MA's), (49, 42800), (68, 42671), (76, 42626),

Gene: Grum1\_73 Start: 42844, Stop: 42629, Start Num: 41

Candidate Starts for Grum1\_73:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: Gruunaga\_73 Start: 42002, Stop: 41703, Start Num: 14

Candidate Starts for Gruunaga\_73:

(3, 42098), (Start: 7 @42065 has 3 MA's), (Start: 14 @42002 has 23 MA's), (23, 41951), (47, 41870), (54, 41846), (69, 41738), (70, 41735), (74, 41711),

Gene: GtownJaz\_74 Start: 42842, Stop: 42630, Start Num: 42

Candidate Starts for GtownJaz\_74:

(Start: 41 @42845 has 35 MA's), (Start: 42 @42842 has 31 MA's), (49, 42809), (68, 42680), (76, 42635),

Gene: Gwennie\_69 Start: 42845, Stop: 42633, Start Num: 42

Candidate Starts for Gwennie\_69:

(Start: 41 @42848 has 35 MA's), (Start: 42 @42845 has 31 MA's), (49, 42812), (68, 42683), (76, 42638),

Gene: Hammer\_74 Start: 41709, Stop: 41410, Start Num: 14

Candidate Starts for Hammer\_74:

(3, 41805), (Start: 7 @41772 has 3 MA's), (Start: 14 @41709 has 23 MA's), (23, 41658), (47, 41577), (54, 41553), (69, 41445), (70, 41442), (74, 41418),

Gene: Hanem\_82 Start: 63735, Stop: 63947, Start Num: 50

Candidate Starts for Hanem\_82:

(Start: 50 @63735 has 9 MA's), (65, 63849),

Gene: Hanray\_72 Start: 42923, Stop: 42705, Start Num: 33

Candidate Starts for Hanray\_72:

(Start: 33 @42923 has 41 MA's), (49, 42866), (54, 42848),

Gene: HarryHoudini\_73 Start: 43532, Stop: 43332, Start Num: 35

Candidate Starts for HarryHoudini\_73:

(Start: 35 @43532 has 40 MA's), (47, 43478), (54, 43454), (69, 43340),

Gene: HashRod\_75 Start: 42869, Stop: 42657, Start Num: 42

Candidate Starts for HashRod\_75:

(Start: 41 @42872 has 35 MA's), (Start: 42 @42869 has 31 MA's), (49, 42836), (68, 42707), (76, 42662),

Gene: Heffalump\_70 Start: 43906, Stop: 43682, Start Num: 35

Candidate Starts for Heffalump\_70:

(Start: 35 @43906 has 40 MA's), (47, 43855), (67, 43723), (69, 43717), (74, 43690), (75, 43687),

Gene: Helmet\_76 Start: 42144, Stop: 41845, Start Num: 14

Candidate Starts for Helmet\_76:

(3, 42240), (Start: 7 @42207 has 3 MA's), (Start: 14 @42144 has 23 MA's), (23, 42093), (47, 42012), (54, 41988), (69, 41880), (70, 41877), (74, 41853),

Gene: Hercules11\_74 Start: 42853, Stop: 42638, Start Num: 41

Candidate Starts for Hercules11\_74:

(Start: 41 @42853 has 35 MA's), (Start: 42 @42850 has 31 MA's), (49, 42817), (68, 42688), (76, 42643),

Gene: Hexamo\_73 Start: 41678, Stop: 41379, Start Num: 14

Candidate Starts for Hexamo\_73:

(3, 41774), (Start: 7 @41741 has 3 MA's), (Start: 14 @41678 has 23 MA's), (23, 41627), (47, 41546), (54, 41522), (69, 41414), (70, 41411), (74, 41387),

Gene: HippoHollow\_70 Start: 44531, Stop: 44307, Start Num: 37

Candidate Starts for HippoHollow\_70:

(Start: 37 @44531 has 60 MA's), (68, 44345), (69, 44342), (74, 44315),

Gene: Horex\_72 Start: 42939, Stop: 42721, Start Num: 33

Candidate Starts for Horex\_72:

(Start: 33 @42939 has 41 MA's), (49, 42882), (54, 42864),

Gene: HortumSL17\_75 Start: 42923, Stop: 42705, Start Num: 33

Candidate Starts for HortumSL17\_75:

(Start: 33 @42923 has 41 MA's), (49, 42866), (54, 42848),

Gene: Hutc2\_70 Start: 41938, Stop: 41675, Start Num: 37

Candidate Starts for Hutc2\_70:

(Start: 37 @41938 has 60 MA's), (47, 41884), (49, 41878), (61, 41806), (73, 41719),

Gene: Indra\_77 Start: 42145, Stop: 41846, Start Num: 14

Candidate Starts for Indra\_77:

(3, 42241), (Start: 7 @42208 has 3 MA's), (Start: 14 @42145 has 23 MA's), (23, 42094), (47, 42013), (54, 41989), (69, 41881), (70, 41878), (74, 41854),

Gene: Insomnia\_74 Start: 43230, Stop: 43003, Start Num: 37

Candidate Starts for Insomnia\_74:

(Start: 37 @43230 has 60 MA's), (47, 43176), (49, 43170), (61, 43098),

Gene: IronMan\_70 Start: 44663, Stop: 44424, Start Num: 37

Candidate Starts for IronMan\_70:

(Start: 37 @44663 has 60 MA's), (49, 44600), (54, 44582), (68, 44477),

Gene: JHC117\_70 Start: 42842, Stop: 42627, Start Num: 41

Candidate Starts for JHC117\_70:

(Start: 41 @42842 has 35 MA's), (Start: 42 @42839 has 31 MA's), (49, 42806), (68, 42677), (76, 42632),

Gene: Jaan\_71 Start: 44833, Stop: 44594, Start Num: 37

Candidate Starts for Jaan\_71:

(Start: 37 @44833 has 60 MA's), (49, 44770), (54, 44752), (68, 44647),

Gene: Jabith\_74 Start: 43247, Stop: 43020, Start Num: 37

Candidate Starts for Jabith\_74:

(Start: 37 @43247 has 60 MA's), (47, 43193), (49, 43187), (61, 43115),

Gene: Jeeves\_76 Start: 42825, Stop: 42604, Start Num: 33

Candidate Starts for Jeeves\_76:

(Start: 33 @42825 has 41 MA's), (47, 42771), (49, 42765), (54, 42747), (69, 42639),

Gene: Jeffabunny\_74 Start: 41771, Stop: 41472, Start Num: 14

Candidate Starts for Jeffabunny\_74:

(3, 41867), (Start: 7 @41834 has 3 MA's), (Start: 14 @41771 has 23 MA's), (23, 41720), (47, 41639), (54, 41615), (69, 41507), (70, 41504), (74, 41480),

Gene: JenCasNa\_75 Start: 42844, Stop: 42629, Start Num: 41

Candidate Starts for JenCasNa\_75:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: JeppNRM\_74 Start: 42665, Stop: 42447, Start Num: 40

Candidate Starts for JeppNRM\_74:

(19, 42734), (Start: 40 @42665 has 7 MA's), (49, 42626), (58, 42590), (61, 42557), (68, 42497), (76, 42452),

Gene: Jerm\_74 Start: 43834, Stop: 43610, Start Num: 35

Candidate Starts for Jerm\_74:

(Start: 35 @43834 has 40 MA's), (47, 43783), (67, 43651), (68, 43648), (69, 43645),

Gene: Jiawan\_71 Start: 42955, Stop: 42737, Start Num: 33

Candidate Starts for Jiawan\_71:

(Start: 33 @42955 has 41 MA's), (49, 42898), (54, 42880),

Gene: Jobu08\_70 Start: 42676, Stop: 42461, Start Num: 41

Candidate Starts for Jobu08\_70:

(Start: 41 @42676 has 35 MA's), (Start: 42 @42673 has 31 MA's), (49, 42640), (68, 42511), (76, 42466),

Gene: Joselito\_74 Start: 43267, Stop: 43040, Start Num: 37

Candidate Starts for Joselito\_74:

(Start: 37 @43267 has 60 MA's), (47, 43213), (49, 43207), (61, 43135),

Gene: JoshKayV\_73 Start: 43858, Stop: 43661, Start Num: 35

Candidate Starts for JoshKayV\_73:

(Start: 35 @43858 has 40 MA's), (54, 43783),

Gene: Jsquared\_76 Start: 43035, Stop: 42751, Start Num: 24

Candidate Starts for Jsquared\_76:

(Start: 24 @43035 has 4 MA's), (47, 42942), (49, 42936), (52, 42927), (64, 42828), (68, 42804),

Gene: KADY\_71 Start: 42869, Stop: 42657, Start Num: 42

Candidate Starts for KADY\_71:

(Start: 41 @42872 has 35 MA's), (Start: 42 @42869 has 31 MA's), (49, 42836), (76, 42662),

Gene: Kabocha\_84 Start: 65081, Stop: 65293, Start Num: 50

Candidate Starts for Kabocha\_84:

(Start: 50 @65081 has 9 MA's), (65, 65195),

Gene: Kalb97\_74 Start: 42663, Stop: 42445, Start Num: 40

Candidate Starts for Kalb97\_74:

(19, 42732), (Start: 40 @42663 has 7 MA's), (49, 42624), (58, 42588), (68, 42495), (76, 42450),

Gene: Kalnoky\_74 Start: 42661, Stop: 42443, Start Num: 40

Candidate Starts for Kalnoky\_74:

(19, 42730), (Start: 40 @42661 has 7 MA's), (49, 42622), (58, 42586), (61, 42553), (68, 42493), (76, 42448),

Gene: Kalpine\_72 Start: 43855, Stop: 43637, Start Num: 34

Candidate Starts for Kalpine\_72:

(Start: 34 @43855 has 14 MA's), (47, 43804), (54, 43780), (74, 43645),

Gene: Kazan\_75 Start: 42042, Stop: 41680, Start Num: 7

Candidate Starts for Kazan\_75:

(2, 42108), (3, 42075), (Start: 7 @42042 has 3 MA's), (54, 41823),

Gene: Kerberos\_75 Start: 44003, Stop: 43761, Start Num: 37

Candidate Starts for Kerberos\_75:

(Start: 37 @44003 has 60 MA's), (47, 43949), (54, 43925),

Gene: Keziacharles14\_71 Start: 43500, Stop: 43279, Start Num: 33

Candidate Starts for Keziacharles14\_71:

(Start: 33 @43500 has 41 MA's), (49, 43440), (54, 43422),

Gene: Kimba\_72 Start: 42767, Stop: 42540, Start Num: 37

Candidate Starts for Kimba\_72:

(Start: 37 @42767 has 60 MA's), (47, 42713), (49, 42707), (61, 42635),

Gene: Kimona\_66 Start: 41475, Stop: 41236, Start Num: 38

Candidate Starts for Kimona\_66:

(Start: 38 @41475 has 5 MA's), (Start: 40 @41457 has 7 MA's), (47, 41424), (49, 41418),

Gene: KingCyrus\_72 Start: 44850, Stop: 44626, Start Num: 34

Candidate Starts for KingCyrus\_72:

(Start: 34 @44850 has 14 MA's), (47, 44799), (67, 44667), (68, 44664), (69, 44661), (74, 44634),

Gene: Kinmap\_75 Start: 42177, Stop: 41995, Start Num: 37

Candidate Starts for Kinmap\_75:

(Start: 37 @42177 has 60 MA's), (51, 42123), (53, 42117), (56, 42102),

Gene: KittenMittens\_63 Start: 40822, Stop: 40583, Start Num: 37

Candidate Starts for KittenMittens\_63:

(Start: 37 @40822 has 60 MA's), (49, 40762), (76, 40588),

Gene: Klodlith\_69 Start: 42042, Stop: 41767, Start Num: 21

Candidate Starts for Klodlith\_69:

(Start: 21 @42042 has 5 MA's), (Start: 29 @42012 has 1 MA's), (Start: 37 @41997 has 60 MA's), (39, 41991), (47, 41940), (49, 41934), (54, 41916), (69, 41802),

Gene: Koko\_75 Start: 42533, Stop: 42234, Start Num: 14

Candidate Starts for Koko\_75:

(3, 42629), (Start: 7 @42596 has 3 MA's), (Start: 14 @42533 has 23 MA's), (23, 42482), (47, 42401), (54, 42377), (69, 42269), (70, 42266), (74, 42242),

Gene: Kristoff\_65 Start: 42136, Stop: 41897, Start Num: 37

Candidate Starts for Kristoff\_65:

(Start: 37 @42136 has 60 MA's), (49, 42076), (68, 41947), (76, 41902),

Gene: L5\_68.1 Start: 42962, Stop: 42657, Start Num: 24

Candidate Starts for L5\_68.1:

(Start: 24 @42962 has 4 MA's), (47, 42869), (49, 42863), (64, 42755), (68, 42731), (76, 42686),

Gene: LBerry\_75 Start: 42848, Stop: 42633, Start Num: 41

Candidate Starts for LBerry\_75:

(Start: 41 @42848 has 35 MA's), (Start: 42 @42845 has 31 MA's), (49, 42812), (68, 42683), (76, 42638),

Gene: LadyBird\_76 Start: 44079, Stop: 43882, Start Num: 36

Candidate Starts for LadyBird\_76:

(Start: 36 @44079 has 4 MA's), (47, 44028), (54, 44004),

Gene: Landor\_71 Start: 44756, Stop: 44517, Start Num: 37

Candidate Starts for Landor\_71:

(Start: 37 @44756 has 60 MA's), (49, 44693), (54, 44675), (68, 44570),

Gene: Larenn\_69 Start: 43196, Stop: 42972, Start Num: 37

Candidate Starts for Larenn\_69:

(Start: 37 @43196 has 60 MA's), (47, 43145), (49, 43139), (67, 43013), (68, 43010), (69, 43007), (74, 42980),

Gene: LarryKay\_74 Start: 42870, Stop: 42658, Start Num: 42

Candidate Starts for LarryKay\_74:

(Start: 41 @42873 has 35 MA's), (Start: 42 @42870 has 31 MA's), (49, 42837), (68, 42708), (76, 42663),

Gene: Lenoshki\_83 Start: 65841, Stop: 66053, Start Num: 50

Candidate Starts for Lenoshki\_83:

(Start: 50 @65841 has 9 MA's), (65, 65955),

Gene: Leogania\_71 Start: 43883, Stop: 43659, Start Num: 37

Candidate Starts for Leogania\_71:

(Start: 37 @43883 has 60 MA's), (47, 43832), (68, 43697), (69, 43694), (74, 43667),

Gene: Leviathan\_74 Start: 43901, Stop: 43677, Start Num: 35

Candidate Starts for Leviathan\_74:

(Start: 35 @43901 has 40 MA's), (47, 43850), (67, 43718), (68, 43715), (69, 43712),

Gene: LilTurb\_73 Start: 43715, Stop: 43491, Start Num: 35

Candidate Starts for LilTurb\_73:

(Start: 35 @43715 has 40 MA's), (47, 43664), (67, 43532), (68, 43529), (69, 43526),

Gene: Lilbunny\_73 Start: 41775, Stop: 41476, Start Num: 14

Candidate Starts for Lilbunny\_73:

(3, 41871), (Start: 7 @41838 has 3 MA's), (Start: 14 @41775 has 23 MA's), (23, 41724), (47, 41643), (54, 41619), (69, 41511), (70, 41508), (74, 41484),

Gene: Lilith\_72 Start: 42834, Stop: 42622, Start Num: 42

Candidate Starts for Lilith\_72:

(Start: 41 @42837 has 35 MA's), (Start: 42 @42834 has 31 MA's), (49, 42801), (68, 42672), (76, 42627),

Gene: Lilleskat\_71 Start: 42880, Stop: 42662, Start Num: 33

Candidate Starts for Lilleskat\_71:

(Start: 33 @42880 has 41 MA's), (49, 42823), (54, 42805),

Gene: LionsBait\_72 Start: 44532, Stop: 44308, Start Num: 37

Candidate Starts for LionsBait\_72:

(Start: 37 @44532 has 60 MA's), (68, 44346), (69, 44343), (74, 44316),

Gene: Lokk\_66 Start: 42000, Stop: 41782, Start Num: 33

Candidate Starts for Lokk\_66:

(Start: 33 @42000 has 41 MA's), (54, 41925), (68, 41820), (69, 41817),

Gene: LoneWolf\_75 Start: 43122, Stop: 42901, Start Num: 34

Candidate Starts for LoneWolf\_75:

(Start: 34 @43122 has 14 MA's), (49, 43062), (54, 43044),

Gene: Loser\_74 Start: 43958, Stop: 43734, Start Num: 37

Candidate Starts for Loser\_74:

(Start: 37 @43958 has 60 MA's), (47, 43907), (68, 43772), (69, 43769),

Gene: Louie6\_73 Start: 42874, Stop: 42659, Start Num: 41

Candidate Starts for Louie6\_73:

(Start: 41 @42874 has 35 MA's), (Start: 42 @42871 has 31 MA's), (49, 42838), (76, 42664),

Gene: Lowa\_71 Start: 42833, Stop: 42621, Start Num: 42

Candidate Starts for Lowa\_71:

(Start: 41 @42836 has 35 MA's), (Start: 42 @42833 has 31 MA's), (49, 42800), (68, 42671), (76, 42626),

Gene: Luchador\_75 Start: 44307, Stop: 44086, Start Num: 33

Candidate Starts for Luchador\_75:

(Start: 33 @44307 has 41 MA's), (47, 44253), (49, 44247), (54, 44229), (69, 44121),

Gene: Lucivia\_76 Start: 43546, Stop: 43319, Start Num: 37

Candidate Starts for Lucivia\_76:

(Start: 37 @43546 has 60 MA's), (47, 43492), (49, 43486), (61, 43414),

Gene: Lucyedi\_76 Start: 43723, Stop: 43523, Start Num: 35  
Candidate Starts for Lucyedi\_76:  
(26, 43747), (30, 43729), (Start: 35 @43723 has 40 MA's), (63, 43564),

Gene: LugYA\_77 Start: 42845, Stop: 42630, Start Num: 41  
Candidate Starts for LugYA\_77:  
(Start: 41 @42845 has 35 MA's), (Start: 42 @42842 has 31 MA's), (49, 42809), (68, 42680), (76, 42635),

Gene: MaCh\_75 Start: 43510, Stop: 43283, Start Num: 37  
Candidate Starts for MaCh\_75:  
(Start: 37 @43510 has 60 MA's), (47, 43456), (49, 43450), (61, 43378),

Gene: Mabel\_75 Start: 43511, Stop: 43284, Start Num: 37  
Candidate Starts for Mabel\_75:  
(Start: 37 @43511 has 60 MA's), (47, 43457), (49, 43451), (61, 43379),

Gene: MadMarie\_72 Start: 42842, Stop: 42630, Start Num: 42  
Candidate Starts for MadMarie\_72:  
(Start: 41 @42845 has 35 MA's), (Start: 42 @42842 has 31 MA's), (49, 42809), (68, 42680), (76, 42635),

Gene: Mainiac\_73 Start: 42837, Stop: 42622, Start Num: 41  
Candidate Starts for Mainiac\_73:  
(Start: 41 @42837 has 35 MA's), (Start: 42 @42834 has 31 MA's), (49, 42801), (68, 42672), (76, 42627),

Gene: MajorMajor\_74 Start: 42863, Stop: 42621, Start Num: 37  
Candidate Starts for MajorMajor\_74:  
(Start: 24 @42902 has 4 MA's), (Start: 37 @42863 has 60 MA's), (47, 42809), (49, 42803), (54, 42785), (68, 42674),

Gene: Malec\_70 Start: 43763, Stop: 43539, Start Num: 37  
Candidate Starts for Malec\_70:  
(Start: 37 @43763 has 60 MA's), (47, 43712), (49, 43706), (67, 43580), (68, 43577), (69, 43574), (74, 43547),

Gene: Malinsilva\_76 Start: 42833, Stop: 42621, Start Num: 42  
Candidate Starts for Malinsilva\_76:  
(Start: 41 @42836 has 35 MA's), (Start: 42 @42833 has 31 MA's), (49, 42800), (68, 42671), (76, 42626),

Gene: Maminiaina\_74 Start: 43094, Stop: 42831, Start Num: 22  
Candidate Starts for Maminiaina\_74:  
(Start: 22 @43094 has 3 MA's), (Start: 37 @43055 has 60 MA's), (49, 42992), (54, 42974), (67, 42872),

Gene: MarQuardt\_74 Start: 42846, Stop: 42631, Start Num: 41  
Candidate Starts for MarQuardt\_74:  
(Start: 41 @42846 has 35 MA's), (Start: 42 @42843 has 31 MA's), (49, 42810), (68, 42681), (76, 42636),

Gene: Marie\_72 Start: 42841, Stop: 42629, Start Num: 42  
Candidate Starts for Marie\_72:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: Marius\_74 Start: 42661, Stop: 42443, Start Num: 40

Candidate Starts for Marius\_74:

(19, 42730), (Start: 40 @42661 has 7 MA's), (49, 42622), (58, 42586), (61, 42553), (68, 42493), (76, 42448),

Gene: MegTheThird\_69 Start: 42044, Stop: 41775, Start Num: 21

Candidate Starts for MegTheThird\_69:

(Start: 21 @42044 has 5 MA's), (Start: 29 @42020 has 1 MA's), (Start: 37 @42005 has 60 MA's), (49, 41942), (54, 41924), (69, 41810),

Gene: Methuselah\_67 Start: 42868, Stop: 42653, Start Num: 41

Candidate Starts for Methuselah\_67:

(Start: 41 @42868 has 35 MA's), (Start: 42 @42865 has 31 MA's), (49, 42832), (68, 42703), (76, 42658),

Gene: Microwolf\_70 Start: 42860, Stop: 42645, Start Num: 41

Candidate Starts for Microwolf\_70:

(Start: 41 @42860 has 35 MA's), (Start: 42 @42857 has 31 MA's), (49, 42824), (68, 42695), (76, 42650),

Gene: MiculUcigas\_73 Start: 43404, Stop: 43177, Start Num: 35

Candidate Starts for MiculUcigas\_73:

(Start: 35 @43404 has 40 MA's), (47, 43350), (69, 43212),

Gene: Miko\_66 Start: 42778, Stop: 42560, Start Num: 33

Candidate Starts for Miko\_66:

(Start: 33 @42778 has 41 MA's), (54, 42703), (68, 42598), (69, 42595),

Gene: Mikronejon\_79 Start: 63735, Stop: 63947, Start Num: 50

Candidate Starts for Mikronejon\_79:

(Start: 50 @63735 has 9 MA's), (65, 63849),

Gene: Minispark\_72 Start: 42745, Stop: 42512, Start Num: 28

Candidate Starts for Minispark\_72:

(17, 42784), (Start: 28 @42745 has 1 MA's), (49, 42673), (54, 42655),

Gene: MintFritos\_79 Start: 63706, Stop: 63918, Start Num: 50

Candidate Starts for MintFritos\_79:

(Start: 50 @63706 has 9 MA's), (65, 63820),

Gene: Misomonster\_75 Start: 42871, Stop: 42656, Start Num: 41

Candidate Starts for Misomonster\_75:

(Start: 41 @42871 has 35 MA's), (Start: 42 @42868 has 31 MA's), (49, 42835), (76, 42661),

Gene: MissWhite\_71 Start: 41889, Stop: 41647, Start Num: 37

Candidate Starts for MissWhite\_71:

(Start: 37 @41889 has 60 MA's), (47, 41835), (49, 41829), (64, 41724), (68, 41700),

Gene: MoneyMay\_73 Start: 42844, Stop: 42629, Start Num: 41

Candidate Starts for MoneyMay\_73:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: Montavir\_69 Start: 42841, Stop: 42629, Start Num: 42

Candidate Starts for Montavir\_69:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: MuchMore\_77 Start: 42833, Stop: 42621, Start Num: 42

Candidate Starts for MuchMore\_77:

(Start: 41 @42836 has 35 MA's), (Start: 42 @42833 has 31 MA's), (49, 42800), (68, 42671), (76, 42626),

Gene: Mulciber\_73 Start: 43052, Stop: 42825, Start Num: 37

Candidate Starts for Mulciber\_73:

(Start: 37 @43052 has 60 MA's), (47, 42998), (61, 42920),

Gene: Munch\_75 Start: 43515, Stop: 43288, Start Num: 37

Candidate Starts for Munch\_75:

(Start: 37 @43515 has 60 MA's), (47, 43461), (49, 43455), (61, 43383),

Gene: MyraDee\_70 Start: 40654, Stop: 40406, Start Num: 37

Candidate Starts for MyraDee\_70:

(Start: 37 @40654 has 60 MA's), (49, 40594),

Gene: Myxus\_74 Start: 42923, Stop: 42705, Start Num: 33

Candidate Starts for Myxus\_74:

(Start: 33 @42923 has 41 MA's), (49, 42866), (54, 42848),

Gene: NaSiaTalie\_73 Start: 43498, Stop: 43271, Start Num: 35

Candidate Starts for NaSiaTalie\_73:

(Start: 35 @43498 has 40 MA's), (47, 43444), (69, 43306),

Gene: Naji\_75 Start: 44004, Stop: 43762, Start Num: 37

Candidate Starts for Naji\_75:

(Start: 37 @44004 has 60 MA's), (47, 43950), (54, 43926),

Gene: NicoleTera\_70 Start: 43518, Stop: 43297, Start Num: 33

Candidate Starts for NicoleTera\_70:

(Start: 33 @43518 has 41 MA's), (47, 43464), (69, 43332),

Gene: NothingSpecial\_68 Start: 43574, Stop: 43308, Start Num: 22

Candidate Starts for NothingSpecial\_68:

(Start: 22 @43574 has 3 MA's), (Start: 35 @43535 has 40 MA's), (47, 43481), (49, 43475), (67, 43349), (68, 43346), (69, 43343),

Gene: Odin\_73 Start: 42517, Stop: 42317, Start Num: 33

Candidate Starts for Odin\_73:

(15, 42586), (Start: 20 @42556 has 4 MA's), (Start: 33 @42517 has 41 MA's), (47, 42463), (54, 42439), (69, 42325),

Gene: Ollie\_74 Start: 42712, Stop: 42500, Start Num: 42

Candidate Starts for Ollie\_74:

(Start: 41 @42715 has 35 MA's), (Start: 42 @42712 has 31 MA's), (49, 42679), (68, 42550), (76, 42505),

Gene: Onglai\_72 Start: 41127, Stop: 40909, Start Num: 33  
Candidate Starts for Onglai\_72:  
(Start: 33 @41127 has 41 MA's), (49, 41070), (54, 41052),

Gene: Oogie\_82 Start: 65894, Stop: 66106, Start Num: 50  
Candidate Starts for Oogie\_82:  
(Start: 50 @65894 has 9 MA's), (65, 66008),

Gene: Orange\_74 Start: 43064, Stop: 42837, Start Num: 37  
Candidate Starts for Orange\_74:  
(Start: 37 @43064 has 60 MA's), (47, 43010), (49, 43004), (61, 42932),

Gene: P28Green\_74 Start: 42847, Stop: 42632, Start Num: 41  
Candidate Starts for P28Green\_74:  
(Start: 41 @42847 has 35 MA's), (Start: 42 @42844 has 31 MA's), (49, 42811), (68, 42682), (76, 42637),

Gene: PGHhamlin\_76 Start: 42833, Stop: 42621, Start Num: 42  
Candidate Starts for PGHhamlin\_76:  
(Start: 41 @42836 has 35 MA's), (Start: 42 @42833 has 31 MA's), (49, 42800), (68, 42671), (76, 42626),

Gene: PackMan\_73 Start: 42798, Stop: 42580, Start Num: 33  
Candidate Starts for PackMan\_73:  
(Start: 33 @42798 has 41 MA's), (49, 42741), (54, 42723),

Gene: PainterBoy\_75 Start: 43432, Stop: 43232, Start Num: 35  
Candidate Starts for PainterBoy\_75:  
(26, 43456), (30, 43438), (Start: 35 @43432 has 40 MA's), (63, 43273),

Gene: Pakusa\_79 Start: 63461, Stop: 63673, Start Num: 50  
Candidate Starts for Pakusa\_79:  
(Start: 50 @63461 has 9 MA's), (65, 63575),

Gene: Pawn\_72 Start: 42668, Stop: 42450, Start Num: 40  
Candidate Starts for Pawn\_72:  
(19, 42737), (Start: 40 @42668 has 7 MA's), (49, 42629), (58, 42593), (61, 42560), (68, 42500), (76, 42455),

Gene: PeaceMeal1\_64 Start: 40823, Stop: 40584, Start Num: 37  
Candidate Starts for PeaceMeal1\_64:  
(Start: 37 @40823 has 60 MA's), (49, 40763), (76, 40589),

Gene: Pembroke\_74 Start: 42842, Stop: 42630, Start Num: 42  
Candidate Starts for Pembroke\_74:  
(Start: 41 @42845 has 35 MA's), (Start: 42 @42842 has 31 MA's), (49, 42809), (68, 42680), (76, 42635),

Gene: Penny1\_74 Start: 42845, Stop: 42633, Start Num: 42  
Candidate Starts for Penny1\_74:

(Start: 41 @42848 has 35 MA's), (Start: 42 @42845 has 31 MA's), (49, 42812), (68, 42683), (76, 42638),

Gene: Petersenfast\_69 Start: 41946, Stop: 41683, Start Num: 37

Candidate Starts for Petersenfast\_69:

(Start: 37 @41946 has 60 MA's), (47, 41892), (49, 41886), (61, 41814), (73, 41727),

Gene: Ph8s\_76 Start: 42621, Stop: 42382, Start Num: 20

Candidate Starts for Ph8s\_76:

(10, 42693), (Start: 20 @42621 has 4 MA's), (Start: 33 @42582 has 41 MA's), (47, 42528), (49, 42522), (54, 42504), (69, 42390),

Gene: Phaded\_68 Start: 44715, Stop: 44476, Start Num: 37

Candidate Starts for Phaded\_68:

(Start: 37 @44715 has 60 MA's), (49, 44652), (54, 44634), (68, 44529),

Gene: Phaeder\_74 Start: 42798, Stop: 42580, Start Num: 33

Candidate Starts for Phaeder\_74:

(Start: 33 @42798 has 41 MA's), (49, 42741), (54, 42723),

Gene: Pharaoh\_68 Start: 42838, Stop: 42611, Start Num: 33

Candidate Starts for Pharaoh\_68:

(Start: 33 @42838 has 41 MA's), (72, 42625), (73, 42622),

Gene: Phoebe\_75 Start: 42837, Stop: 42622, Start Num: 41

Candidate Starts for Phoebe\_75:

(Start: 41 @42837 has 35 MA's), (Start: 42 @42834 has 31 MA's), (49, 42801), (68, 42672), (76, 42627),

Gene: Phonnegut\_74 Start: 42868, Stop: 42650, Start Num: 33

Candidate Starts for Phonnegut\_74:

(Start: 33 @42868 has 41 MA's), (49, 42811), (54, 42793),

Gene: Phoxy\_74 Start: 42869, Stop: 42654, Start Num: 41

Candidate Starts for Phoxy\_74:

(Start: 41 @42869 has 35 MA's), (Start: 42 @42866 has 31 MA's), (49, 42833), (68, 42704), (76, 42659),

Gene: Pioneer\_74 Start: 42868, Stop: 42650, Start Num: 33

Candidate Starts for Pioneer\_74:

(Start: 33 @42868 has 41 MA's), (49, 42811), (54, 42793),

Gene: Piro94\_72 Start: 43466, Stop: 43239, Start Num: 35

Candidate Starts for Piro94\_72:

(Start: 35 @43466 has 40 MA's), (47, 43412), (69, 43274), (75, 43244),

Gene: Pomar16\_75 Start: 44044, Stop: 43802, Start Num: 37

Candidate Starts for Pomar16\_75:

(Start: 37 @44044 has 60 MA's), (47, 43990), (54, 43966),

Gene: Poompha\_63 Start: 40821, Stop: 40582, Start Num: 37

Candidate Starts for Poompha\_63:

(Start: 37 @40821 has 60 MA's), (49, 40761), (76, 40587),

Gene: PotatoSplit\_75 Start: 42848, Stop: 42633, Start Num: 41

Candidate Starts for PotatoSplit\_75:

(Start: 41 @42848 has 35 MA's), (Start: 42 @42845 has 31 MA's), (49, 42812), (68, 42683), (76, 42638),

Gene: Power\_72 Start: 43836, Stop: 43612, Start Num: 35

Candidate Starts for Power\_72:

(Start: 35 @43836 has 40 MA's), (67, 43653), (68, 43650), (69, 43647),

Gene: Priya\_72 Start: 42595, Stop: 42377, Start Num: 33

Candidate Starts for Priya\_72:

(Start: 33 @42595 has 41 MA's), (49, 42538), (54, 42520),

Gene: Prudy\_66 Start: 43483, Stop: 43259, Start Num: 37

Candidate Starts for Prudy\_66:

(Start: 20 @43528 has 4 MA's), (Start: 37 @43483 has 60 MA's), (49, 43426), (68, 43297), (69, 43294), (74, 43267),

Gene: Pukovnik\_69 Start: 44363, Stop: 44136, Start Num: 35

Candidate Starts for Pukovnik\_69:

(Start: 35 @44363 has 40 MA's), (47, 44309), (69, 44171), (75, 44141),

Gene: Qobbit\_72 Start: 42557, Stop: 42339, Start Num: 33

Candidate Starts for Qobbit\_72:

(Start: 33 @42557 has 41 MA's), (49, 42500), (54, 42482),

Gene: QueenB2\_70 Start: 43119, Stop: 42895, Start Num: 35

Candidate Starts for QueenB2\_70:

(Start: 35 @43119 has 40 MA's), (47, 43068), (67, 42936), (69, 42930), (74, 42903),

Gene: QueenBeesly\_73 Start: 43793, Stop: 43569, Start Num: 35

Candidate Starts for QueenBeesly\_73:

(Start: 35 @43793 has 40 MA's), (67, 43610), (68, 43607), (69, 43604),

Gene: Quokka\_74 Start: 42863, Stop: 42621, Start Num: 37

Candidate Starts for Quokka\_74:

(Start: 24 @42902 has 4 MA's), (Start: 37 @42863 has 60 MA's), (47, 42809), (49, 42803), (54, 42785), (68, 42674),

Gene: Rachaly\_68 Start: 42923, Stop: 42705, Start Num: 33

Candidate Starts for Rachaly\_68:

(Start: 33 @42923 has 41 MA's), (54, 42848), (68, 42743), (69, 42740),

Gene: Rahalelujah\_74 Start: 42760, Stop: 42527, Start Num: 28

Candidate Starts for Rahalelujah\_74:

(17, 42799), (Start: 28 @42760 has 1 MA's), (49, 42688), (54, 42670),

Gene: Rebeuca\_67 Start: 42137, Stop: 41898, Start Num: 37

Candidate Starts for Rebeuca\_67:

(Start: 37 @42137 has 60 MA's), (49, 42077), (68, 41948), (76, 41903),

Gene: RedRock\_71 Start: 43761, Stop: 43537, Start Num: 37

Candidate Starts for RedRock\_71:

(Start: 37 @43761 has 60 MA's), (Start: 38 @43758 has 5 MA's), (47, 43710), (68, 43575), (69, 43572),

Gene: Refuge\_70 Start: 44062, Stop: 43841, Start Num: 34

Candidate Starts for Refuge\_70:

(Start: 34 @44062 has 14 MA's), (43, 44032),

Gene: Retro23\_73 Start: 43524, Stop: 43300, Start Num: 35

Candidate Starts for Retro23\_73:

(Start: 35 @43524 has 40 MA's), (67, 43341), (68, 43338), (69, 43335),

Gene: Rifter\_74 Start: 41305, Stop: 41006, Start Num: 14

Candidate Starts for Rifter\_74:

(3, 41401), (Start: 7 @41368 has 3 MA's), (Start: 14 @41305 has 23 MA's), (23, 41254), (47, 41173), (54, 41149), (69, 41041), (70, 41038), (74, 41014),

Gene: Roksolana\_74 Start: 42039, Stop: 41740, Start Num: 14

Candidate Starts for Roksolana\_74:

(3, 42135), (Start: 7 @42102 has 3 MA's), (Start: 14 @42039 has 23 MA's), (23, 41988), (47, 41907), (54, 41883), (69, 41775), (70, 41772), (74, 41748),

Gene: Rowdy\_68 Start: 41850, Stop: 41611, Start Num: 37

Candidate Starts for Rowdy\_68:

(Start: 37 @41850 has 60 MA's), (49, 41790), (76, 41616),

Gene: Rummer\_73 Start: 42872, Stop: 42657, Start Num: 41

Candidate Starts for Rummer\_73:

(Start: 41 @42872 has 35 MA's), (Start: 42 @42869 has 31 MA's), (49, 42836), (68, 42707), (76, 42662),

Gene: RyeScarlet\_75 Start: 42843, Stop: 42625, Start Num: 33

Candidate Starts for RyeScarlet\_75:

(Start: 33 @42843 has 41 MA's), (49, 42786), (54, 42768),

Gene: Sabia\_72 Start: 42852, Stop: 42637, Start Num: 41

Candidate Starts for Sabia\_72:

(Start: 41 @42852 has 35 MA's), (Start: 42 @42849 has 31 MA's), (49, 42816), (68, 42687), (76, 42642),

Gene: Sabinator\_72 Start: 42840, Stop: 42628, Start Num: 42

Candidate Starts for Sabinator\_72:

(Start: 41 @42843 has 35 MA's), (Start: 42 @42840 has 31 MA's), (49, 42807), (68, 42678), (76, 42633),

Gene: Sachima\_70 Start: 42824, Stop: 42606, Start Num: 33

Candidate Starts for Sachima\_70:

(Start: 33 @42824 has 41 MA's), (49, 42767), (54, 42749),

Gene: Salz\_70 Start: 41861, Stop: 41598, Start Num: 37

Candidate Starts for Salz\_70:

(Start: 37 @41861 has 60 MA's), (47, 41807), (49, 41801), (61, 41729), (73, 41642),

Gene: Saskia\_72 Start: 42409, Stop: 42146, Start Num: 37

Candidate Starts for Saskia\_72:  
(Start: 37 @42409 has 60 MA's), (49, 42349), (73, 42190),

Gene: ScarletRaider\_83 Start: 67178, Stop: 67384, Start Num: 50  
Candidate Starts for ScarletRaider\_83:  
(4, 66935), (6, 66956), (9, 66989), (11, 67010), (12, 67019), (Start: 50 @67178 has 9 MA's), (69, 67316),

Gene: Scherzo\_73 Start: 43087, Stop: 42869, Start Num: 33  
Candidate Starts for Scherzo\_73:  
(Start: 33 @43087 has 41 MA's), (49, 43030), (54, 43012),

Gene: Schomber\_81 Start: 63469, Stop: 63681, Start Num: 50  
Candidate Starts for Schomber\_81:  
(Start: 50 @63469 has 9 MA's), (65, 63583),

Gene: SemperFi\_73 Start: 43681, Stop: 43457, Start Num: 35  
Candidate Starts for SemperFi\_73:  
(Start: 35 @43681 has 40 MA's), (67, 43498), (68, 43495), (69, 43492),

Gene: Serenity\_76 Start: 43102, Stop: 42818, Start Num: 24  
Candidate Starts for Serenity\_76:  
(Start: 24 @43102 has 4 MA's), (47, 43009), (49, 43003), (52, 42994), (64, 42895), (68, 42871),

Gene: Severus\_64 Start: 40821, Stop: 40582, Start Num: 37  
Candidate Starts for Severus\_64:  
(Start: 37 @40821 has 60 MA's), (49, 40761), (76, 40587),

Gene: Sham4\_71 Start: 41945, Stop: 41682, Start Num: 37  
Candidate Starts for Sham4\_71:  
(Start: 37 @41945 has 60 MA's), (47, 41891), (49, 41885), (61, 41813), (73, 41726),

Gene: Shapes\_68 Start: 41850, Stop: 41611, Start Num: 37  
Candidate Starts for Shapes\_68:  
(Start: 37 @41850 has 60 MA's), (49, 41790), (76, 41616),

Gene: SheaKeira\_68 Start: 41846, Stop: 41625, Start Num: 33  
Candidate Starts for SheaKeira\_68:  
(Start: 33 @41846 has 41 MA's), (47, 41792), (69, 41660),

Gene: Sknot\_73 Start: 43498, Stop: 43271, Start Num: 35  
Candidate Starts for Sknot\_73:  
(Start: 35 @43498 has 40 MA's), (47, 43444), (69, 43306),

Gene: Smeagan\_75 Start: 43992, Stop: 43768, Start Num: 35  
Candidate Starts for Smeagan\_75:  
(Start: 35 @43992 has 40 MA's), (47, 43941), (67, 43809), (68, 43806), (69, 43803),

Gene: SmellyB\_74 Start: 42036, Stop: 41674, Start Num: 7  
Candidate Starts for SmellyB\_74:  
(2, 42102), (3, 42069), (Start: 7 @42036 has 3 MA's), (54, 41817),

Gene: SnapTap\_72 Start: 43492, Stop: 43268, Start Num: 35

Candidate Starts for SnapTap\_72:

(Start: 35 @43492 has 40 MA's), (67, 43309), (68, 43306), (69, 43303),

Gene: Snape\_75 Start: 43054, Stop: 42827, Start Num: 37

Candidate Starts for Snape\_75:

(Start: 37 @43054 has 60 MA's), (47, 43000), (61, 42922),

Gene: Snickers\_74 Start: 42814, Stop: 42602, Start Num: 42

Candidate Starts for Snickers\_74:

(Start: 41 @42817 has 35 MA's), (Start: 42 @42814 has 31 MA's), (49, 42781), (68, 42652), (76, 42607),

Gene: SoYo\_71 Start: 42753, Stop: 42541, Start Num: 42

Candidate Starts for SoYo\_71:

(Start: 41 @42756 has 35 MA's), (Start: 42 @42753 has 31 MA's), (49, 42720), (68, 42591), (76, 42546),

Gene: SoilDragon\_73 Start: 42289, Stop: 42077, Start Num: 42

Candidate Starts for SoilDragon\_73:

(Start: 41 @42292 has 35 MA's), (Start: 42 @42289 has 31 MA's), (49, 42256), (68, 42127), (76, 42082),

Gene: SororFago\_74 Start: 44027, Stop: 43806, Start Num: 33

Candidate Starts for SororFago\_74:

(Start: 33 @44027 has 41 MA's), (47, 43973), (49, 43967), (54, 43949), (69, 43841),

Gene: Soshari\_76 Start: 42868, Stop: 42653, Start Num: 41

Candidate Starts for Soshari\_76:

(Start: 41 @42868 has 35 MA's), (Start: 42 @42865 has 31 MA's), (49, 42832), (68, 42703), (76, 42658),

Gene: Spike509\_74 Start: 42869, Stop: 42654, Start Num: 41

Candidate Starts for Spike509\_74:

(Start: 41 @42869 has 35 MA's), (Start: 42 @42866 has 31 MA's), (49, 42833), (68, 42704), (76, 42659),

Gene: Spouty\_72 Start: 42594, Stop: 42376, Start Num: 33

Candidate Starts for Spouty\_72:

(Start: 33 @42594 has 41 MA's), (49, 42537), (54, 42519),

Gene: Stagni\_71 Start: 42844, Stop: 42632, Start Num: 42

Candidate Starts for Stagni\_71:

(Start: 41 @42847 has 35 MA's), (Start: 42 @42844 has 31 MA's), (49, 42811), (68, 42682), (76, 42637),

Gene: StarStuff\_75 Start: 44006, Stop: 43764, Start Num: 37

Candidate Starts for StarStuff\_75:

(Start: 37 @44006 has 60 MA's), (47, 43952), (54, 43928),

Gene: Steamy\_67 Start: 42288, Stop: 42067, Start Num: 34

Candidate Starts for Steamy\_67:

(Start: 34 @42288 has 14 MA's), (46, 42258), (67, 42108),

Gene: Sunhee\_74 Start: 42052, Stop: 41858, Start Num: 42

Candidate Starts for Sunhee\_74:

(Start: 34 @42079 has 14 MA's), (Start: 42 @42052 has 31 MA's), (47, 42025), (49, 42019), (54, 42001), (69, 41893),

Gene: Superchunk\_74 Start: 42168, Stop: 41929, Start Num: 20

Candidate Starts for Superchunk\_74:

(10, 42240), (13, 42222), (Start: 20 @42168 has 4 MA's), (Start: 33 @42129 has 41 MA's), (47, 42075), (54, 42051), (69, 41937),

Gene: SweetiePie\_72 Start: 43624, Stop: 43400, Start Num: 35

Candidate Starts for SweetiePie\_72:

(Start: 35 @43624 has 40 MA's), (67, 43441), (68, 43438), (69, 43435),

Gene: SwirlSquare\_78 Start: 42851, Stop: 42651, Start Num: 33

Candidate Starts for SwirlSquare\_78:

(Start: 33 @42851 has 41 MA's), (47, 42797), (49, 42791), (54, 42773),

Gene: TarsusIV\_70 Start: 43465, Stop: 43244, Start Num: 34

Candidate Starts for TarsusIV\_70:

(Start: 34 @43465 has 14 MA's), (47, 43411), (49, 43405), (54, 43387), (69, 43279),

Gene: Taurus\_75 Start: 42844, Stop: 42629, Start Num: 41

Candidate Starts for Taurus\_75:

(Start: 41 @42844 has 35 MA's), (Start: 42 @42841 has 31 MA's), (49, 42808), (68, 42679), (76, 42634),

Gene: Temprado\_75 Start: 42144, Stop: 41845, Start Num: 14

Candidate Starts for Temprado\_75:

(3, 42240), (Start: 7 @42207 has 3 MA's), (Start: 14 @42144 has 23 MA's), (23, 42093), (47, 42012), (54, 41988), (69, 41880), (70, 41877), (74, 41853),

Gene: Terrific\_73 Start: 43472, Stop: 43245, Start Num: 35

Candidate Starts for Terrific\_73:

(Start: 35 @43472 has 40 MA's), (47, 43418), (69, 43280),

Gene: Tiffany\_73 Start: 42729, Stop: 42514, Start Num: 41

Candidate Starts for Tiffany\_73:

(Start: 41 @42729 has 35 MA's), (Start: 42 @42726 has 31 MA's), (49, 42693), (68, 42564), (76, 42519),

Gene: Timothy\_75 Start: 43031, Stop: 42804, Start Num: 37

Candidate Starts for Timothy\_75:

(Start: 37 @43031 has 60 MA's), (47, 42977), (49, 42971), (61, 42899),

Gene: TinyPebbles\_73 Start: 42874, Stop: 42659, Start Num: 41

Candidate Starts for TinyPebbles\_73:

(Start: 41 @42874 has 35 MA's), (Start: 42 @42871 has 31 MA's), (49, 42838), (76, 42664),

Gene: TinyTimmy\_73 Start: 42760, Stop: 42533, Start Num: 37

Candidate Starts for TinyTimmy\_73:

(Start: 37 @42760 has 60 MA's), (47, 42706), (49, 42700), (61, 42628),

Gene: TopsytheTRex\_72 Start: 43101, Stop: 42820, Start Num: 24  
Candidate Starts for TopsytheTRex\_72:  
(Start: 24 @43101 has 4 MA's), (47, 43008), (49, 43002), (54, 42984), (68, 42873),

Gene: Toaka\_74 Start: 43128, Stop: 42862, Start Num: 21  
Candidate Starts for Toaka\_74:  
(Start: 21 @43128 has 5 MA's), (Start: 29 @43101 has 1 MA's), (43, 43056), (54, 43005), (67, 42903),

Gene: Tomathan\_75 Start: 44117, Stop: 43875, Start Num: 37  
Candidate Starts for Tomathan\_75:  
(Start: 37 @44117 has 60 MA's), (47, 44063), (54, 44039),

Gene: ToneTone\_71 Start: 41704, Stop: 41405, Start Num: 14  
Candidate Starts for ToneTone\_71:  
(3, 41800), (Start: 7 @41767 has 3 MA's), (Start: 14 @41704 has 23 MA's), (23, 41653), (47, 41572),  
(54, 41548), (69, 41440), (70, 41437), (74, 41413),

Gene: Toneprano\_80 Start: 63704, Stop: 63916, Start Num: 50  
Candidate Starts for Toneprano\_80:  
(Start: 50 @63704 has 9 MA's), (65, 63818),

Gene: Topanga\_63 Start: 41611, Stop: 41378, Start Num: 38  
Candidate Starts for Topanga\_63:  
(Start: 38 @41611 has 5 MA's), (47, 41563), (49, 41557), (76, 41383),

Gene: Travvers\_74 Start: 44003, Stop: 43761, Start Num: 37  
Candidate Starts for Travvers\_74:  
(Start: 37 @44003 has 60 MA's), (47, 43949), (54, 43925),

Gene: Trike\_63 Start: 40825, Stop: 40589, Start Num: 37  
Candidate Starts for Trike\_63:  
(Start: 37 @40825 has 60 MA's), (49, 40768), (76, 40594),

Gene: Tristan\_69 Start: 44578, Stop: 44339, Start Num: 37  
Candidate Starts for Tristan\_69:  
(Start: 37 @44578 has 60 MA's), (49, 44515), (54, 44497), (68, 44392),

Gene: Trixie\_72 Start: 44253, Stop: 44035, Start Num: 34  
Candidate Starts for Trixie\_72:  
(Start: 34 @44253 has 14 MA's), (47, 44202), (54, 44178), (64, 44091), (69, 44070), (74, 44043),

Gene: Trooper\_72 Start: 43427, Stop: 43203, Start Num: 37  
Candidate Starts for Trooper\_72:  
(Start: 37 @43427 has 60 MA's), (47, 43376), (49, 43370), (68, 43241), (69, 43238),

Gene: Tubs\_74 Start: 42798, Stop: 42580, Start Num: 33  
Candidate Starts for Tubs\_74:  
(Start: 33 @42798 has 41 MA's), (49, 42741), (54, 42723),

Gene: Tucker\_74 Start: 41907, Stop: 41608, Start Num: 14  
Candidate Starts for Tucker\_74:  
(3, 42003), (Start: 7 @41970 has 3 MA's), (Start: 14 @41907 has 23 MA's), (23, 41856), (47, 41775),  
(54, 41751), (69, 41643), (70, 41640), (74, 41616),

Gene: Turbido\_73 Start: 43711, Stop: 43487, Start Num: 35  
Candidate Starts for Turbido\_73:  
(Start: 35 @43711 has 40 MA's), (47, 43660), (67, 43528), (68, 43525), (69, 43522),

Gene: Twin\_78 Start: 63734, Stop: 63946, Start Num: 50  
Candidate Starts for Twin\_78:  
(Start: 50 @63734 has 9 MA's), (65, 63848),

Gene: Twister\_65 Start: 41732, Stop: 41499, Start Num: 38  
Candidate Starts for Twister\_65:  
(Start: 38 @41732 has 5 MA's), (47, 41684), (49, 41678), (76, 41504),

Gene: UBSmoodge\_86 Start: 67618, Stop: 67824, Start Num: 50  
Candidate Starts for UBSmoodge\_86:  
(Start: 50 @67618 has 9 MA's), (69, 67756),

Gene: Ugenie5\_69 Start: 43086, Stop: 42868, Start Num: 33  
Candidate Starts for Ugenie5\_69:  
(Start: 33 @43086 has 41 MA's), (49, 43029), (54, 43011),

Gene: Updawg\_73 Start: 43362, Stop: 43135, Start Num: 35  
Candidate Starts for Updawg\_73:  
(Start: 35 @43362 has 40 MA's), (47, 43308), (69, 43170),

Gene: VA6\_72 Start: 43461, Stop: 43186, Start Num: 21  
Candidate Starts for VA6\_72:  
(Start: 21 @43461 has 5 MA's), (27, 43440), (Start: 37 @43416 has 60 MA's), (47, 43359), (49, 43353),  
(68, 43224), (69, 43221),

Gene: VC3\_74 Start: 43459, Stop: 43217, Start Num: 37  
Candidate Starts for VC3\_74:  
(Start: 37 @43459 has 60 MA's), (47, 43405), (54, 43381), (67, 43273),

Gene: Vix\_70 Start: 42927, Stop: 42712, Start Num: 41  
Candidate Starts for Vix\_70:  
(Start: 41 @42927 has 35 MA's), (Start: 42 @42924 has 31 MA's), (49, 42891), (68, 42762), (76,  
42717),

Gene: WalterMcMickey\_65 Start: 41732, Stop: 41499, Start Num: 38  
Candidate Starts for WalterMcMickey\_65:  
(Start: 38 @41732 has 5 MA's), (47, 41684), (49, 41678), (76, 41504),

Gene: Watson\_73 Start: 42833, Stop: 42621, Start Num: 42  
Candidate Starts for Watson\_73:  
(Start: 41 @42836 has 35 MA's), (Start: 42 @42833 has 31 MA's), (49, 42800), (68, 42671), (76,  
42626),

Gene: WeiHuaDA\_73 Start: 44299, Stop: 44075, Start Num: 35  
Candidate Starts for WeiHuaDA\_73:  
(Start: 35 @44299 has 40 MA's), (47, 44248), (49, 44242), (67, 44116), (68, 44113), (69, 44110), (74,  
44083),

Gene: Whabigail7\_73 Start: 43711, Stop: 43487, Start Num: 35  
Candidate Starts for Whabigail7\_73:  
(Start: 35 @43711 has 40 MA's), (47, 43660), (67, 43528), (68, 43525), (69, 43522),

Gene: WideWale\_73 Start: 43362, Stop: 43135, Start Num: 35  
Candidate Starts for WideWale\_73:  
(Start: 35 @43362 has 40 MA's), (47, 43308), (69, 43170),

Gene: Wiks\_73 Start: 41775, Stop: 41476, Start Num: 14  
Candidate Starts for Wiks\_73:  
(3, 41871), (Start: 7 @41838 has 3 MA's), (Start: 14 @41775 has 23 MA's), (23, 41724), (47, 41643),  
(54, 41619), (69, 41511), (70, 41508), (74, 41484),

Gene: Wolpertinger\_73 Start: 43063, Stop: 42836, Start Num: 37  
Candidate Starts for Wolpertinger\_73:  
(Start: 37 @43063 has 60 MA's), (47, 43009), (49, 43003), (61, 42931),

Gene: Wooldri\_76 Start: 42756, Stop: 42541, Start Num: 41  
Candidate Starts for Wooldri\_76:  
(Start: 41 @42756 has 35 MA's), (Start: 42 @42753 has 31 MA's), (49, 42720), (68, 42591), (76,  
42546),

Gene: WorldCup\_72 Start: 42754, Stop: 42521, Start Num: 28  
Candidate Starts for WorldCup\_72:  
(17, 42793), (Start: 28 @42754 has 1 MA's), (49, 42682), (54, 42664),

Gene: WunderPhul\_74 Start: 41773, Stop: 41474, Start Num: 14  
Candidate Starts for WunderPhul\_74:  
(3, 41869), (Start: 7 @41836 has 3 MA's), (Start: 14 @41773 has 23 MA's), (23, 41722), (47, 41641),  
(54, 41617), (69, 41509), (70, 41506), (74, 41482),

Gene: XianYue\_68 Start: 43295, Stop: 43074, Start Num: 32  
Candidate Starts for XianYue\_68:  
(Start: 32 @43295 has 1 MA's), (54, 43217), (68, 43112), (75, 43079),

Gene: Yecey3\_76 Start: 42829, Stop: 42608, Start Num: 33  
Candidate Starts for Yecey3\_76:  
(Start: 33 @42829 has 41 MA's), (49, 42769), (54, 42751), (64, 42664),

Gene: Yokurt\_73 Start: 41775, Stop: 41476, Start Num: 14  
Candidate Starts for Yokurt\_73:  
(3, 41871), (Start: 7 @41838 has 3 MA's), (Start: 14 @41775 has 23 MA's), (23, 41724), (47, 41643),  
(54, 41619), (69, 41511), (70, 41508), (74, 41484),

Gene: Zaka\_74 Start: 41775, Stop: 41476, Start Num: 14  
Candidate Starts for Zaka\_74:  
(3, 41871), (Start: 7 @41838 has 3 MA's), (Start: 14 @41775 has 23 MA's), (23, 41724), (47, 41643),  
(54, 41619), (69, 41511), (70, 41508), (74, 41484),

Gene: Zetzy\_71 Start: 42407, Stop: 42192, Start Num: 41  
Candidate Starts for Zetzy\_71:  
(Start: 41 @42407 has 35 MA's), (49, 42371), (57, 42338), (61, 42302), (68, 42242), (76, 42197),

Gene: Zimmer\_71 Start: 43934, Stop: 43707, Start Num: 34

Candidate Starts for Zimmer\_71:

(Start: 34 @43934 has 14 MA's), (47, 43880), (49, 43874), (54, 43856), (67, 43748), (69, 43742),

Gene: Zulu\_75 Start: 42153, Stop: 41854, Start Num: 14

Candidate Starts for Zulu\_75:

(3, 42249), (Start: 7 @42216 has 3 MA's), (Start: 14 @42153 has 23 MA's), (23, 42102), (47, 42021),  
(54, 41997), (69, 41889), (70, 41886), (74, 41862),