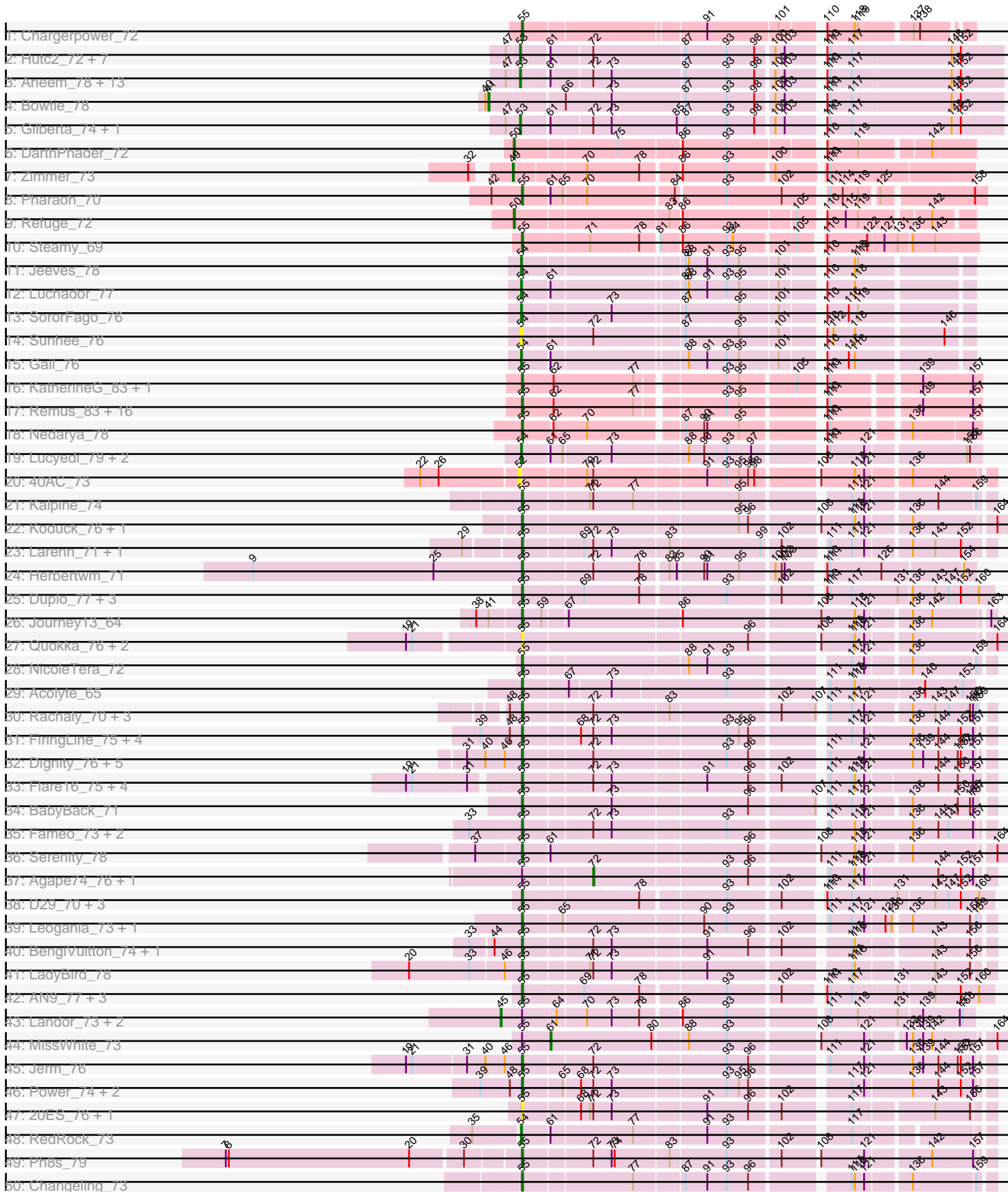
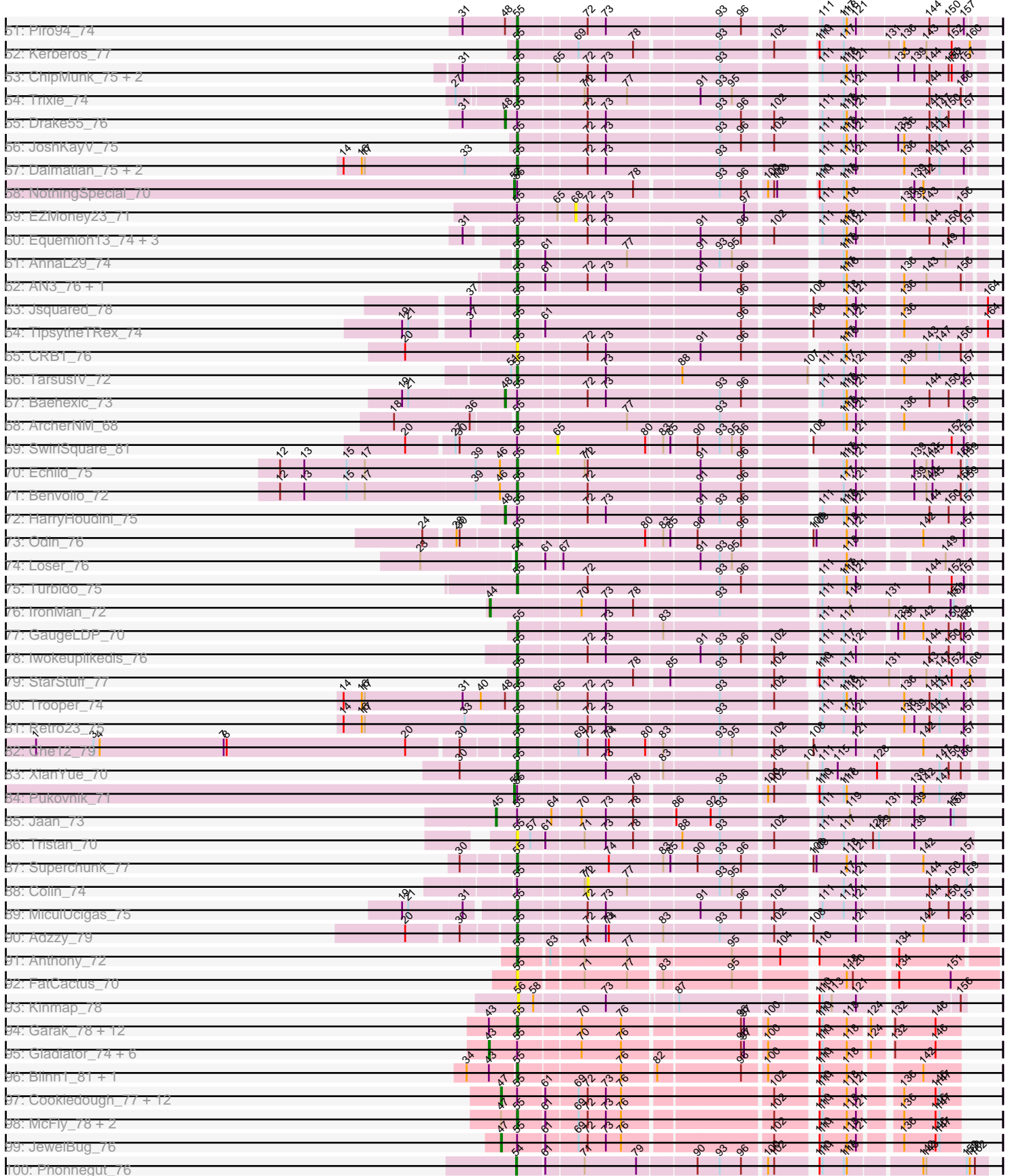


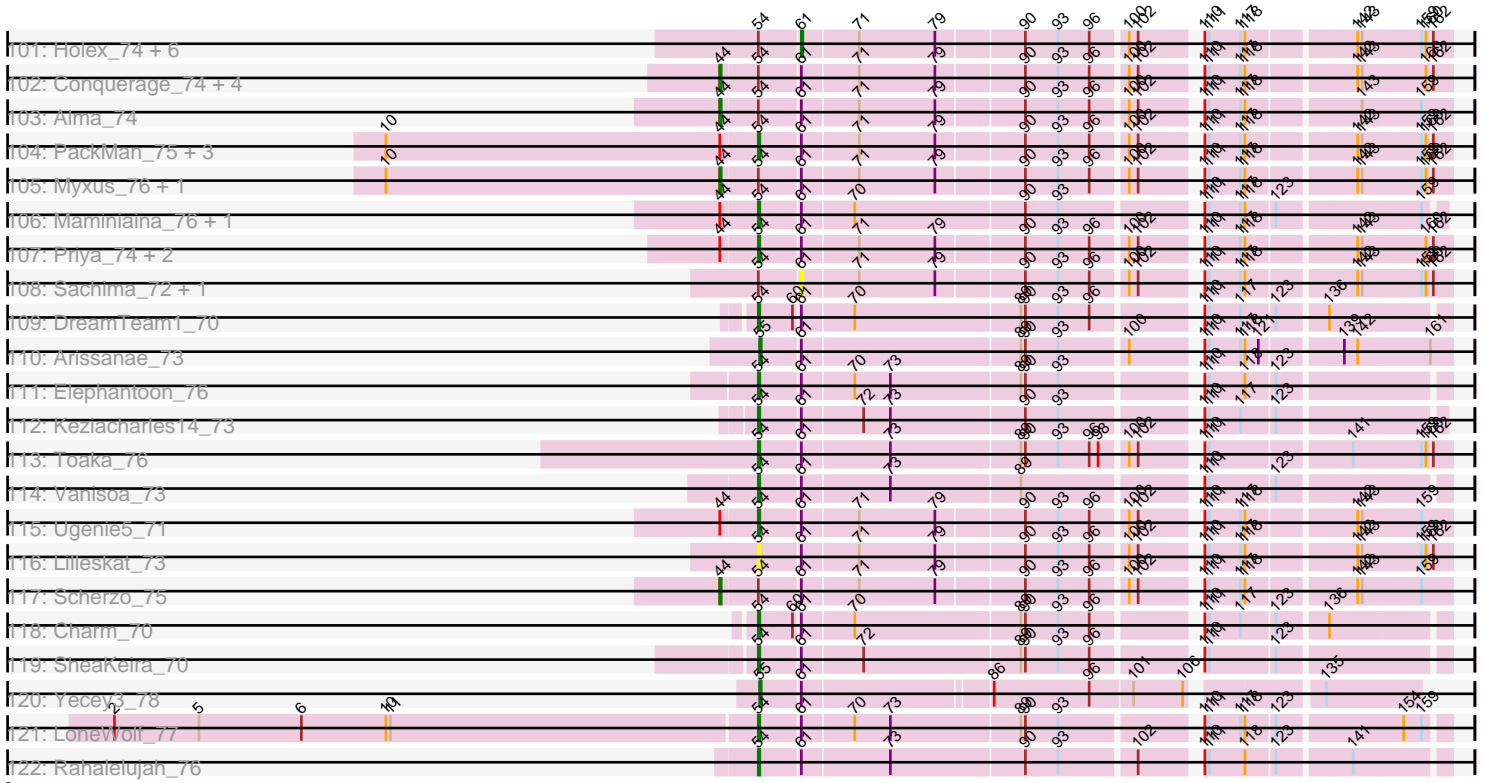
Pham 224249



# Pham 224249



Pham 224249



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 224249 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224249 has 260 members, 32 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_72
- Track 2 : Hutc2\_72, Sham4\_73, Salz\_72, Fibonacci\_76, Insomnia\_76, Ebony\_77, Jabith\_76, Petersenfast\_71
- Track 3 : Aneem\_78, Mabel\_77, Et2Brutus\_76, Bud\_72, Flaverint\_78, Mulciber\_75, Timothy\_77, TinyTimmy\_75, Snape\_77, Joselito\_76, Bachome\_75, Orange\_76, Munch\_77, Lucivia\_78
- Track 4 : Bowtie\_78
- Track 5 : Gilberta\_74, MaCh\_77
- Track 6 : DarthPhader\_72
- Track 7 : Zimmer\_73
- Track 8 : Pharaoh\_70
- Track 9 : Refuge\_72
- Track 10 : Steamy\_69
- Track 11 : Jeeves\_78
- Track 12 : Luchador\_77
- Track 13 : SororFago\_76
- Track 14 : Sunhee\_76
- Track 15 : Gail\_76
- Track 16 : KatherineG\_83, Looper\_82
- Track 17 : Remus\_83, Rosalind\_81, Battleship\_85, Epsocamisio\_80, MinecraftSteve\_83, ReMo\_81, Strosahl\_83, DekHockey33\_84, Soups\_82, Warrior24\_84, Nebulosus\_80, Switzerland\_82, Waits\_82, LastResort\_81, Anaysia\_83, Oofda\_82, JSwag\_83
- Track 18 : Nedarya\_78
- Track 19 : Lucyedi\_79, PainterBoy\_78, EagleEye\_80
- Track 20 : 40AC\_73
- Track 21 : Kalpine\_74
- Track 22 : Koduck\_76, L5\_70
- Track 23 : Larenn\_71, Malec\_72
- Track 24 : Herbertwm\_71
- Track 25 : Duplo\_77, DBQu4n\_77, Pomar16\_77, Tomathan\_77
- Track 26 : Journey13\_64
- Track 27 : Quokka\_76, Bradman\_77, MajorMajor\_76
- Track 28 : NicoleTera\_72
- Track 29 : Acolyte\_65
- Track 30 : Rachaly\_70, BobSwaget\_67, Lokk\_68, Miko\_68

- Track 31 : FiringLine\_75, Crucio\_75, SemperFi\_75, SweetiePie\_74, QueenBeesly\_75
- Track 32 : Dignity\_76, Leviathan\_76, Smeagan\_77, Whabigail7\_75, LilTurb\_75, Buggy\_76
- Track 33 : Flare16\_75, Terrific\_75, Sknot\_75, NaSiaTalie\_75, Centaur\_75
- Track 34 : BabyBack\_71
- Track 35 : Fameo\_73, Heffalump\_72, QueenB2\_72
- Track 36 : Serenity\_78
- Track 37 : Agape74\_76, AbbyPaige\_76
- Track 38 : D29\_70, D32\_76, Travvers\_76, Naji\_77
- Track 39 : Leogania\_73, BiancaTri92\_73
- Track 40 : BengiVuitton\_74, Deloris\_74
- Track 41 : LadyBird\_78
- Track 42 : AN9\_77, C3\_70, VC3\_76, ANI8\_77
- Track 43 : Landor\_73, Phaded\_70, Bactobuster\_67
- Track 44 : MissWhite\_73
- Track 45 : Jerm\_76
- Track 46 : Power\_74, Georgie2\_76, SnapTap\_74
- Track 47 : 20ES\_76, First\_0075
- Track 48 : RedRock\_73
- Track 49 : Ph8s\_79
- Track 50 : Changeling\_73
- Track 51 : Piro94\_74
- Track 52 : Kerberos\_77
- Track 53 : ChipMunk\_75, EvilGenius\_74, KingCyrus\_74
- Track 54 : Trixie\_74
- Track 55 : Drake55\_76
- Track 56 : JoshKayV\_75
- Track 57 : Dalmatian\_75, DudeLittle\_73, Anselm\_76
- Track 58 : NothingSpecial\_70
- Track 59 : EZMoney23\_71
- Track 60 : Equemioh13\_74, Gratitude\_72, Updawg\_75, WideWale\_75
- Track 61 : AnnaL29\_74
- Track 62 : AN3\_76, VA6\_74
- Track 63 : Jsquared\_78
- Track 64 : TipsytheTRex\_74
- Track 65 : CRB1\_76
- Track 66 : TarsusIV\_72
- Track 67 : Baehexic\_73
- Track 68 : ArcherNM\_68
- Track 69 : SwirlSquare\_81
- Track 70 : Echild\_75
- Track 71 : Benvolio\_72
- Track 72 : HarryHoudini\_75
- Track 73 : Odin\_76
- Track 74 : Loser\_76
- Track 75 : Turbido\_75
- Track 76 : IronMan\_72
- Track 77 : GaugeLDP\_70
- Track 78 : Iwokeuplikedis\_76
- Track 79 : StarStuff\_77
- Track 80 : Trooper\_74
- Track 81 : Retro23\_75

- Track 82 : Che12\_79
- Track 83 : XianYue\_70
- Track 84 : Pukovnik\_71
- Track 85 : Jaan\_73
- Track 86 : Tristan\_70
- Track 87 : Superchunk\_77
- Track 88 : Colin\_74
- Track 89 : MiculUcigas\_75
- Track 90 : Adzzy\_79
- Track 91 : Anthony\_72
- Track 92 : FatCactus\_70
- Track 93 : Kinmap\_78
- Track 94 : Garak\_78, Rifter\_77, Tucker\_77, Hexamo\_76, Hammer\_77, ToneTone\_74, Yokurt\_76, Zulu\_78, Koko\_78, Temprado\_78, Roksolana\_77, Gruunaga\_76, Wiks\_76
- Track 95 : Gladiator\_74, Zaka\_77, Artemis2UCLA\_76, WunderPhul\_77, Lilbunny\_76, CloudWang3\_77, Blue7\_78
- Track 96 : Blinn1\_81, Priamo\_78
- Track 97 : Cookiedough\_77, DaVinci\_75, Kazan\_78, Neeharika16\_76, VohminGhazi\_77, GreedyLawyer\_72, EricB\_76, Jordennis\_75, Newrala\_76, Kipper29\_77, Dorothea\_77, Pmask\_76, SuperAwesome\_77
- Track 98 : McFly\_78, Hoot\_72, BABullseye\_70
- Track 99 : JewelBug\_76
- Track 100 : Phonnegut\_76
- Track 101 : Horex\_74, Beemo\_76, Jiawan\_73, Pioneer\_76, Hanray\_74, RyeScarlet\_77, Onglai\_74
- Track 102 : Conquerage\_74, Fayely\_74, Spouty\_74, Qobbit\_74, EmyBug\_73
- Track 103 : Alma\_74
- Track 104 : PackMan\_75, Tubs\_76, Catalina\_78, Phaeder\_76
- Track 105 : Myxus\_76, HortumSL17\_77
- Track 106 : Maminiaina\_76, BogosyJay\_76
- Track 107 : Priya\_74, ExplosioNervosa\_74, Eidsmoe\_74
- Track 108 : Sachima\_72, EdogawaKiddo\_74
- Track 109 : DreamTeam1\_70
- Track 110 : Arissanae\_73
- Track 111 : Elephantoon\_76
- Track 112 : Keziacharles14\_73
- Track 113 : Toaka\_76
- Track 114 : Vanisoa\_73
- Track 115 : Ugenie5\_71
- Track 116 : Lilleskat\_73
- Track 117 : Scherzo\_75
- Track 118 : Charm\_70
- Track 119 : SheaKeira\_70
- Track 120 : Yecey3\_78
- Track 121 : LoneWolf\_77
- Track 122 : Rahalelujah\_76

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

The start number called the most often in the published annotations is 55, it was called in 127 of the 228 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES\_76, AN3\_76, AN9\_77, ANI8\_77, Acolyte\_65, Adzzy\_79, Anaysia\_83, AnnaL29\_74, Anselm\_76, Anthony\_72, ArcherNM\_68, Arissanae\_73, BABullseye\_70, BabyBack\_71, Battleship\_85, BengiVuitton\_74, Benvolio\_72, BiancaTri92\_73, Blinn1\_81, BobSwaget\_67, Bradman\_77, Buggy\_76, C3\_70, CRB1\_76, Centaur\_75, Changeling\_73, Chargerpower\_72, Che12\_79, ChipMunk\_75, Crucio\_75, D29\_70, D32\_76, DBQu4n\_77, Dalmatian\_75, DekHockey33\_84, Deloris\_74, Dignity\_76, DudeLittle\_73, Duplo\_77, Echid\_75, Epsocamisio\_80, Equemioh13\_74, EvilGenius\_74, Fameo\_73, FatCactus\_70, FiringLine\_75, First\_0075, Flare16\_75, Garak\_78, GaugeLDP\_70, Georgie2\_76, Gratitude\_72, Gruunaga\_76, Hammer\_77, Heffalump\_72, Herbertwm\_71, Hexamo\_76, Hoot\_72, Iwokeuplikedis\_76, JSwag\_83, Jerm\_76, JoshKayV\_75, Journey13\_64, Jsquared\_78, Kalpine\_74, KatherineG\_83, Kerberos\_77, KingCyrus\_74, Koduck\_76, Koko\_78, L5\_70, LadyBird\_78, Larenn\_71, LastResort\_81, Leogania\_73, Leviathan\_76, LilTurb\_75, Lokk\_68, Looper\_82, MajorMajor\_76, Malec\_72, McFly\_78, MiculUcigas\_75, Miko\_68, MinecraftSteve\_83, NaSiaTalie\_75, Naji\_77, Nebulosus\_80, Nedarya\_78, NicoleTera\_72, Odin\_76, Oofda\_82, Ph8s\_79, Pharaoh\_70, Piro94\_74, Pomar16\_77, Power\_74, Priamo\_78, QueenB2\_72, QueenBeesly\_75, Quokka\_76, Rachaly\_70, ReMo\_81, Remus\_83, Retro23\_75, Rifter\_77, Roksolana\_77, Rosalind\_81, SemperFi\_75, Serenity\_78, Sknot\_75, Smeagan\_77, SnapTap\_74, Soups\_82, StarStuff\_77, Steamy\_69, Strosahl\_83, Superchunk\_77, SweetiePie\_74, Switzerland\_82, TarsusIV\_72, Temprado\_78, Terrific\_75, TipsytheTRex\_74, Tomathan\_77, ToneTone\_74, Travvers\_76, Tristan\_70, Trixie\_74, Trooper\_74, Tucker\_77, Turbido\_75, Updawg\_75, VA6\_74, VC3\_76, Waits\_82, Warrior24\_84, Whabigail7\_75, WideWale\_75, Wiks\_76, XianYue\_70, Yecey3\_78, Yokurt\_76, Zulu\_78,

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

- AbbyPaige\_76, Agape74\_76, Artemis2UCLA\_76, Bactobuster\_67, Baehexic\_73, Blue7\_78, CloudWang3\_77, Colin\_74, Cookiedough\_77, DaVinci\_75, Dorothea\_77, Drake55\_76, EZMoney23\_71, EricB\_76, Gladiator\_74, GreedyLawyer\_72, HarryHoudini\_75, Jaan\_73, JewelBug\_76, Jordennis\_75, Kazan\_78, Kipper29\_77, Landor\_73, Lilbunny\_76, MissWhite\_73, Neeharika16\_76, Newrala\_76, NothingSpecial\_70, Phaded\_70, Pmask\_76, Pukovnik\_71, SuperAwesome\_77, SwirlSquare\_81, VohminGhazi\_77, WunderPhul\_77, Zaka\_77,

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

- 40AC\_73, Alma\_74, Aneem\_78, Bachome\_75, Beemo\_76, BogosyJay\_76, Bowtie\_78, Bud\_72, Catalina\_78, Charm\_70, Conquerage\_74, DarthPhader\_72, DreamTeam1\_70, EagleEye\_80, Ebony\_77, EdogawaKiddo\_74, Eidsmoe\_74, Elephantoon\_76, EmyBug\_73, Et2Brutus\_76, ExplosioNervosa\_74, Fayely\_74, Fibonacci\_76, Flaverint\_78, Gail\_76, Gilberta\_74, Hanray\_74, Halex\_74, HortumSL17\_77, Hutc2\_72, Insomnia\_76, IronMan\_72, Jabith\_76, Jeeves\_78, Jiawan\_73, Joselito\_76, Keziacharles14\_73, Kinmap\_78, Lilleskat\_73, LoneWolf\_77, Loser\_76, Luchador\_77, Lucivia\_78, Lucyedi\_79, MaCh\_77, Mabel\_77, Maminiaina\_76, Mulciber\_75, Munch\_77, Myxus\_76, Onglai\_74, Orange\_76, PackMan\_75, PainterBoy\_78, Petersenfast\_71, Phaeder\_76, Phonnegut\_76, Pioneer\_76, Priya\_74, Qobbit\_74, Rahalelujah\_76, RedRock\_73, Refuge\_72, RyeScarlet\_77, Sachima\_72, Salz\_72, Scherzo\_75, Sham4\_73, SheaKeira\_70, Snape\_77, SororFago\_76, Spouty\_74, Sunhee\_76, Timothy\_77, TinyTimmy\_75,

Toaka\_76, Tubs\_76, Ugenie5\_71, Vanisoa\_73, Zimmer\_73,

### Summary by start number:

#### Start 41:

- Found in 2 of 260 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 228
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bowtie\_78 (A11),

#### Start 43:

- Found in 22 of 260 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 7 of 228
- Called 31.8% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_76 (A6), Blue7\_78 (A6), CloudWang3\_77 (A6), Gladiator\_74 (A6), Lilbunny\_76 (A6), WunderPhul\_77 (A6), Zaka\_77 (A6),

#### Start 44:

- Found in 22 of 260 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 10 of 228
- Called 45.5% of time when present
- Phage (with cluster) where this start called: Alma\_74 (A9), Conquerage\_74 (A9), EmyBug\_73 (A9), Fayely\_74 (A9), HortumSL17\_77 (A9), IronMan\_72 (A2), Myxus\_76 (A9), Qobbit\_74 (A9), Scherzo\_75 (A9), Spouty\_74 (A9),

#### Start 45:

- Found in 4 of 260 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 4 of 228
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bactobuster\_67 (A2), Jaan\_73 (A2), Landor\_73 (A2), Phaded\_70 (A2),

#### Start 47:

- Found in 41 of 260 ( 15.8% ) of genes in pham
- Manual Annotations of this start: 14 of 228
- Called 34.1% of time when present
- Phage (with cluster) where this start called: Cookiedough\_77 (A6), DaVinci\_75 (A6), Dorothea\_77 (A6), EricB\_76 (A6), GreedyLawyer\_72 (A6), JewelBug\_76 (A6), Jordennis\_75 (A6), Kazan\_78 (A6), Kipper29\_77 (A6), Neeharika16\_76 (A6), Newrala\_76 (A6), Pmask\_76 (A6), SuperAwesome\_77 (A6), VohminGhazi\_77 (A6),

#### Start 48:

- Found in 17 of 260 ( 6.5% ) of genes in pham
- Manual Annotations of this start: 3 of 228
- Called 17.6% of time when present
- Phage (with cluster) where this start called: Baehexic\_73 (A2), Drake55\_76 (A2), HarryHoudini\_75 (A2),

#### Start 49:

- Found in 1 of 260 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 228
- Called 100.0% of time when present



- Phage (with cluster) where this start called: Zimmer\_73 (A12),

#### Start 50:

- Found in 2 of 260 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 228
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DARTHPhader\_72 (A12), Refuge\_72 (A12),

#### Start 52:

- Found in 3 of 260 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 2 of 228
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 40AC\_73 (A17), NothingSpecial\_70 (A2), Pukovnik\_71 (A2),

#### Start 53:

- Found in 24 of 260 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 23 of 228
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aneem\_78 (A11), Bachome\_75 (A11), Bud\_72 (A11), Ebony\_77 (A11), Et2Brutus\_76 (A11), Fibonacci\_76 (A11), Flaverint\_78 (A11), Gilberta\_74 (A11), Hutc2\_72 (A11), Insomnia\_76 (A11), Jabith\_76 (A11), Joselito\_76 (A11), Lucivia\_78 (A11), MaCh\_77 (A11), Mabel\_77 (A11), Mulciber\_75 (A11), Munch\_77 (A11), Orange\_76 (A11), Petersenfast\_71 (A11), Salz\_72 (A11), Sham4\_73 (A11), Snape\_77 (A11), Timothy\_77 (A11), TinyTimmy\_75 (A11),

#### Start 54:

- Found in 49 of 260 ( 18.8% ) of genes in pham
- Manual Annotations of this start: 29 of 228
- Called 63.3% of time when present
- Phage (with cluster) where this start called: BogosyJay\_76 (A9), Catalina\_78 (A9), Charm\_70 (A9), DreamTeam1\_70 (A9), EagleEye\_80 (A16), Eidsmoe\_74 (A9), Elephantoon\_76 (A9), ExplosioNervosa\_74 (A9), Gail\_76 (A14), Jeeves\_78 (A14), Keziacharles14\_73 (A9), Lilleskat\_73 (A9), LoneWolf\_77 (A9), Loser\_76 (A2), Luchador\_77 (A14), Lucyedi\_79 (A16), Maminiaina\_76 (A9), PackMan\_75 (A9), PainterBoy\_78 (A16), Phaeder\_76 (A9), Phonnegut\_76 (A9), Priya\_74 (A9), Rahalelujah\_76 (A9), RedRock\_73 (A2), SheaKeira\_70 (A9), SororFago\_76 (A14), Sunhee\_76 (A14), Toaka\_76 (A9), Tubs\_76 (A9), Ugenie5\_71 (A9), Vanisoa\_73 (A9),

#### Start 55:

- Found in 180 of 260 ( 69.2% ) of genes in pham
- Manual Annotations of this start: 127 of 228
- Called 80.0% of time when present
- Phage (with cluster) where this start called: 20ES\_76 (A2), AN3\_76 (A2), AN9\_77 (A2), ANI8\_77 (A2), Acolyte\_65 (A2), Adzzy\_79 (A2), Anaysia\_83 (A15), AnnaL29\_74 (A2), Anselm\_76 (A2), Anthony\_72 (A20), ArcherNM\_68 (A2), Arissanae\_73 (A9), BABullseye\_70 (A6), BabyBack\_71 (A2), Battleship\_85 (A15), BengiVuitton\_74 (A2), Benvolio\_72 (A2), BiancaTri92\_73 (A2), Blinn1\_81 (A6), BobSwaget\_67 (A2), Bradman\_77 (A2), Buggy\_76 (A2), C3\_70 (A2), CRB1\_76 (A2), Centaur\_75 (A2), Changeling\_73 (A2), Chargerpower\_72 (A), Che12\_79 (A2), ChipMunk\_75 (A2), Crucio\_75 (A2), D29\_70 (A2), D32\_76 (A2), DBQu4n\_77 (A2), Dalmatian\_75 (A2),

DekHockey33\_84 (A15), Deloris\_74 (A2), Dignity\_76 (A2), DudeLittle\_73 (A2), Duplo\_77 (A2), Echild\_75 (A2), Epsocamisio\_80 (A15), Equemioh13\_74 (A2), EvilGenius\_74 (A2), Fameo\_73 (A2), FatCactus\_70 (A20), FiringLine\_75 (A2), First\_0075 (A2), Flare16\_75 (A2), Garak\_78 (A6), GaugeLDP\_70 (A2), Georgie2\_76 (A2), Gratitude\_72 (A2), Gruunaga\_76 (A6), Hammer\_77 (A6), Heffalump\_72 (A2), Herbertwm\_71 (A2), Hexamo\_76 (A6), Hoot\_72 (A6), Iwokeuplikedis\_76 (A2), JSwag\_83 (A15), Jerm\_76 (A2), JoshKayV\_75 (A2), Journey13\_64 (A2), Jsquared\_78 (A2), Kalpine\_74 (A2), KatherineG\_83 (A15), Kerberos\_77 (A2), KingCyrus\_74 (A2), Koduck\_76 (A2), Koko\_78 (A6), L5\_70 (A2), LadyBird\_78 (A2), Larenn\_71 (A2), LastResort\_81 (A15), Leogania\_73 (A2), Leviathan\_76 (A2), LilTurb\_75 (A2), Lokk\_68 (A2), Looper\_82 (A15), MajorMajor\_76 (A2), Malec\_72 (A2), McFly\_78 (A6), MiculUcigas\_75 (A2), Miko\_68 (A2), MinecraftSteve\_83 (A15), NaSiaTalie\_75 (A2), Naji\_77 (A2), Nebulosus\_80 (A15), Nedarya\_78 (A15), NicoleTera\_72 (A2), Odin\_76 (A2), Oofda\_82 (A15), Ph8s\_79 (A2), Pharaoh\_70 (A12), Piro94\_74 (A2), Pomar16\_77 (A2), Power\_74 (A2), Priamo\_78 (A6), QueenB2\_72 (A2), QueenBeesly\_75 (A2), Quokka\_76 (A2), Rachaly\_70 (A2), ReMo\_81 (A15), Remus\_83 (A15), Retro23\_75 (A2), Rifter\_77 (A6), Roksolana\_77 (A6), Rosalind\_81 (A15), SemperFi\_75 (A2), Serenity\_78 (A2), Sknot\_75 (A2), Smeagan\_77 (A2), SnapTap\_74 (A2), Soups\_82 (A15), StarStuff\_77 (A2), Steamy\_69 (A12), Strosahl\_83 (A15), Superchunk\_77 (A2), SweetiePie\_74 (A2), Switzerland\_82 (A15), TarsusIV\_72 (A2), Temprado\_78 (A6), Terrific\_75 (A2), TipsytheTRex\_74 (A2), Tomathan\_77 (A2), ToneTone\_74 (A6), Travvers\_76 (A2), Tristan\_70 (A2), Trixie\_74 (A2), Trooper\_74 (A2), Tucker\_77 (A6), Turbido\_75 (A2), Updawg\_75 (A2), VA6\_74 (A2), VC3\_76 (A2), Waits\_82 (A15), Warrior24\_84 (A15), Whabigail7\_75 (A2), WideWale\_75 (A2), Wiks\_76 (A6), XianYue\_70 (A2), Yecey3\_78 (A9), Yokurt\_76 (A6), Zulu\_78 (A6),

#### Start 56:

- Found in 1 of 260 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kinmap\_78 (A21),

#### Start 61:

- Found in 97 of 260 ( 37.3% ) of genes in pham
- Manual Annotations of this start: 3 of 228
- Called 10.3% of time when present
- Phage (with cluster) where this start called: Beemo\_76 (A9), EdogawaKiddo\_74 (A9), Hanray\_74 (A9), Horex\_74 (A9), Jiawan\_73 (A9), MissWhite\_73 (A2), Onglai\_74 (A9), Pioneer\_76 (A9), RyeScarlet\_77 (A9), Sachima\_72 (A9),

#### Start 65:

- Found in 15 of 260 ( 5.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 6.7% of time when present
- Phage (with cluster) where this start called: SwirlSquare\_81 (A2),

#### Start 68:

- Found in 11 of 260 ( 4.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 9.1% of time when present
- Phage (with cluster) where this start called: EZMoney23\_71 (A2),

Start 72:

- Found in 114 of 260 ( 43.8% ) of genes in pham
- Manual Annotations of this start: 2 of 228
- Called 2.6% of time when present
- Phage (with cluster) where this start called: AbbyPaige\_76 (A2), Agape74\_76 (A2), Colin\_74 (A2),

### **Summary by clusters:**

There are 12 clusters represented in this pham: A15, A, A17, A14, A11, A12, A21, A20, A2, A6, A9, A16,

Info for manual annotations of cluster A:

- Start number 55 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A11:

- Start number 41 was manually annotated 1 time for cluster A11.
- Start number 53 was manually annotated 23 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 49 was manually annotated 1 time for cluster A12.
- Start number 50 was manually annotated 2 times for cluster A12.
- Start number 55 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 54 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A15:

- Start number 55 was manually annotated 18 times for cluster A15.

Info for manual annotations of cluster A16:

- Start number 54 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 44 was manually annotated 1 time for cluster A2.
- Start number 45 was manually annotated 4 times for cluster A2.
- Start number 48 was manually annotated 3 times for cluster A2.
- Start number 52 was manually annotated 2 times for cluster A2.
- Start number 54 was manually annotated 2 times for cluster A2.
- Start number 55 was manually annotated 87 times for cluster A2.
- Start number 61 was manually annotated 1 time for cluster A2.
- Start number 72 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A20:

- Start number 55 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A6:

- Start number 43 was manually annotated 7 times for cluster A6.
- Start number 47 was manually annotated 14 times for cluster A6.
- Start number 55 was manually annotated 16 times for cluster A6.

Info for manual annotations of cluster A9:

- Start number 44 was manually annotated 9 times for cluster A9.
- Start number 54 was manually annotated 20 times for cluster A9.
- Start number 55 was manually annotated 2 times for cluster A9.
- Start number 61 was manually annotated 2 times for cluster A9.

**Gene Information:**

Gene: 20ES\_76 Start: 44872, Stop: 44459, Start Num: 55

Candidate Starts for 20ES\_76:

(Start: 55 @44872 has 127 MA's), (68, 44821), (71, 44812), (Start: 72 @44809 has 2 MA's), (73, 44791), (91, 44704), (96, 44665), (102, 44638), (117, 44581), (143, 44509), (156, 44476),

Gene: 40AC\_73 Start: 45297, Stop: 44878, Start Num: 52

Candidate Starts for 40AC\_73:

(22, 45390), (26, 45372), (Start: 52 @45297 has 2 MA's), (70, 45240), (Start: 72 @45234 has 2 MA's), (91, 45129), (93, 45111), (95, 45099), (96, 45090), (98, 45084), (108, 45030), (118, 44997), (121, 44988), (136, 44949),

Gene: AN3\_76 Start: 43653, Stop: 43240, Start Num: 55

Candidate Starts for AN3\_76:

(Start: 55 @43653 has 127 MA's), (Start: 61 @43629 has 3 MA's), (Start: 72 @43590 has 2 MA's), (73, 43572), (91, 43485), (96, 43446), (117, 43362), (118, 43359), (136, 43311), (143, 43290), (156, 43257),

Gene: AN9\_77 Start: 44797, Stop: 44378, Start Num: 55

Candidate Starts for AN9\_77:

(Start: 55 @44797 has 127 MA's), (69, 44743), (78, 44689), (93, 44614), (102, 44566), (110, 44533), (111, 44530), (117, 44509), (131, 44467), (143, 44434), (152, 44410), (160, 44392),

Gene: ANI8\_77 Start: 44797, Stop: 44378, Start Num: 55

Candidate Starts for ANI8\_77:

(Start: 55 @44797 has 127 MA's), (69, 44743), (78, 44689), (93, 44614), (102, 44566), (110, 44533), (111, 44530), (117, 44509), (131, 44467), (143, 44434), (152, 44410), (160, 44392),

Gene: AbbyPaige\_76 Start: 45068, Stop: 44712, Start Num: 72

Candidate Starts for AbbyPaige\_76:

(Start: 55 @45131 has 127 MA's), (Start: 72 @45068 has 2 MA's), (93, 44945), (96, 44924), (111, 44861), (117, 44840), (118, 44837), (121, 44828), (144, 44759), (152, 44738), (157, 44726),

Gene: Acolyte\_65 Start: 42788, Stop: 42381, Start Num: 55

Candidate Starts for Acolyte\_65:

(Start: 55 @42788 has 127 MA's), (67, 42746), (73, 42707), (93, 42599), (111, 42515), (117, 42494), (118, 42491), (140, 42428), (153, 42392),

Gene: Adzzy\_79 Start: 44582, Stop: 44163, Start Num: 55

Candidate Starts for Adzzy\_79:

(20, 44675), (30, 44630), (Start: 55 @44582 has 127 MA's), (Start: 72 @44519 has 2 MA's), (73, 44501), (74, 44498), (83, 44447), (93, 44396), (102, 44348), (108, 44315), (121, 44273), (142, 44216), (157, 44177),

Gene: Agape74\_76 Start: 45063, Stop: 44707, Start Num: 72

Candidate Starts for Agape74\_76:

(Start: 55 @45126 has 127 MA's), (Start: 72 @45063 has 2 MA's), (93, 44940), (96, 44919), (111, 44856), (117, 44835), (118, 44832), (121, 44823), (144, 44754), (152, 44733), (157, 44721),

Gene: Alma\_74 Start: 44144, Stop: 43698, Start Num: 44

Candidate Starts for Alma\_74:

(Start: 44 @44144 has 10 MA's), (Start: 54 @44120 has 29 MA's), (Start: 61 @44096 has 3 MA's), (71, 44060), (79, 44009), (90, 43955), (93, 43934), (96, 43913), (100, 43892), (102, 43886), (110, 43853), (111, 43850), (117, 43829), (118, 43826), (143, 43757), (159, 43718),

Gene: Anaysia\_83 Start: 45370, Stop: 44972, Start Num: 55

Candidate Starts for Anaysia\_83:

(Start: 55 @45370 has 127 MA's), (62, 45340), (77, 45262), (93, 45187), (95, 45175), (110, 45106), (111, 45103), (139, 45028), (157, 44980),

Gene: Aneem\_78 Start: 44778, Stop: 44341, Start Num: 53

Candidate Starts for Aneem\_78:

(Start: 47 @44790 has 14 MA's), (Start: 53 @44778 has 23 MA's), (Start: 61 @44754 has 3 MA's), (Start: 72 @44715 has 2 MA's), (73, 44697), (87, 44628), (93, 44589), (98, 44562), (100, 44547), (103, 44538), (110, 44508), (111, 44505), (117, 44484), (148, 44391), (152, 44382),

Gene: AnnaL29\_74 Start: 45079, Stop: 44672, Start Num: 55

Candidate Starts for AnnaL29\_74:

(Start: 55 @45079 has 127 MA's), (Start: 61 @45055 has 3 MA's), (77, 44977), (91, 44911), (93, 44893), (95, 44881), (117, 44788), (118, 44785), (149, 44704),

Gene: Anselm\_76 Start: 45193, Stop: 44774, Start Num: 55

Candidate Starts for Anselm\_76:

(14, 45361), (16, 45343), (17, 45340), (33, 45241), (Start: 55 @45193 has 127 MA's), (Start: 72 @45130 has 2 MA's), (73, 45112), (93, 45007), (111, 44923), (117, 44902), (121, 44890), (136, 44845), (144, 44821), (147, 44812), (157, 44788),

Gene: Anthony\_72 Start: 44226, Stop: 43804, Start Num: 55

Candidate Starts for Anthony\_72:

(Start: 55 @44226 has 127 MA's), (63, 44199), (71, 44169), (77, 44127), (95, 44037), (104, 43995), (110, 43968), (134, 43896),

Gene: ArcherNM\_68 Start: 44346, Stop: 43933, Start Num: 55

Candidate Starts for ArcherNM\_68:

(18, 44457), (36, 44382), (Start: 55 @44346 has 127 MA's), (77, 44244), (93, 44160), (117, 44055), (118, 44052), (121, 44043), (136, 44004), (159, 43947),

Gene: Arissanae\_73 Start: 44444, Stop: 44019, Start Num: 55

Candidate Starts for Arissanae\_73:

(Start: 55 @44444 has 127 MA's), (Start: 61 @44420 has 3 MA's), (89, 44279), (90, 44276), (93, 44255), (100, 44213), (110, 44174), (111, 44171), (117, 44150), (118, 44147), (121, 44138), (139, 44090), (142, 44081), (161, 44033),

Gene: Artemis2UCLA\_76 Start: 43341, Stop: 42928, Start Num: 43

Candidate Starts for Artemis2UCLA\_76:

(Start: 43 @43341 has 7 MA's), (Start: 55 @43314 has 127 MA's), (70, 43257), (76, 43218), (96, 43110), (97, 43107), (100, 43089), (110, 43050), (111, 43047), (118, 43023), (124, 43005), (132,

42990), (146, 42951),

Gene: BABullseye\_70 Start: 41954, Stop: 41568, Start Num: 55

Candidate Starts for BABullseye\_70:

(Start: 47 @41969 has 14 MA's), (Start: 55 @41954 has 127 MA's), (Start: 61 @41930 has 3 MA's), (69, 41900), (Start: 72 @41891 has 2 MA's), (73, 41873), (76, 41858), (102, 41723), (110, 41690), (111, 41687), (118, 41663), (121, 41654), (136, 41621), (146, 41591), (147, 41588),

Gene: BabyBack\_71 Start: 44781, Stop: 44368, Start Num: 55

Candidate Starts for BabyBack\_71:

(Start: 55 @44781 has 127 MA's), (73, 44700), (96, 44574), (107, 44514), (111, 44511), (117, 44490), (121, 44478), (136, 44439), (150, 44397), (156, 44385), (157, 44382),

Gene: Bachome\_75 Start: 43657, Stop: 43220, Start Num: 53

Candidate Starts for Bachome\_75:

(Start: 47 @43669 has 14 MA's), (Start: 53 @43657 has 23 MA's), (Start: 61 @43633 has 3 MA's), (Start: 72 @43594 has 2 MA's), (73, 43576), (87, 43507), (93, 43468), (98, 43441), (100, 43426), (103, 43417), (110, 43387), (111, 43384), (117, 43363), (148, 43270), (152, 43261),

Gene: Bactobuster\_67 Start: 44476, Stop: 44054, Start Num: 45

Candidate Starts for Bactobuster\_67:

(Start: 45 @44476 has 4 MA's), (Start: 55 @44455 has 127 MA's), (64, 44425), (70, 44398), (73, 44374), (78, 44347), (86, 44314), (93, 44272), (111, 44185), (119, 44158), (131, 44122), (139, 44101), (151, 44068), (153, 44065),

Gene: Baehexic\_73 Start: 44533, Stop: 44102, Start Num: 48

Candidate Starts for Baehexic\_73:

(19, 44629), (21, 44623), (Start: 48 @44533 has 3 MA's), (Start: 55 @44521 has 127 MA's), (Start: 72 @44458 has 2 MA's), (73, 44440), (93, 44335), (96, 44314), (111, 44251), (117, 44230), (118, 44227), (121, 44218), (144, 44152), (150, 44134), (157, 44119),

Gene: Battleship\_85 Start: 45243, Stop: 44845, Start Num: 55

Candidate Starts for Battleship\_85:

(Start: 55 @45243 has 127 MA's), (62, 45213), (77, 45135), (93, 45060), (95, 45048), (110, 44979), (111, 44976), (139, 44901), (157, 44853),

Gene: Beemo\_76 Start: 44134, Stop: 43739, Start Num: 61

Candidate Starts for Beemo\_76:

(Start: 54 @44158 has 29 MA's), (Start: 61 @44134 has 3 MA's), (71, 44098), (79, 44047), (90, 43993), (93, 43972), (96, 43951), (100, 43930), (102, 43924), (110, 43891), (111, 43888), (117, 43867), (118, 43864), (142, 43798), (143, 43795), (159, 43756), (160, 43753), (162, 43750),

Gene: BengiVuitton\_74 Start: 44822, Stop: 44409, Start Num: 55

Candidate Starts for BengiVuitton\_74:

(33, 44867), (Start: 44 @44846 has 10 MA's), (Start: 55 @44822 has 127 MA's), (Start: 72 @44759 has 2 MA's), (73, 44741), (91, 44654), (96, 44615), (102, 44588), (117, 44531), (118, 44528), (143, 44459), (156, 44426),

Gene: Benvolio\_72 Start: 44419, Stop: 44006, Start Num: 55

Candidate Starts for Benvolio\_72:

(12, 44644), (13, 44620), (15, 44578), (17, 44560), (39, 44452), (46, 44431), (Start: 55 @44419 has 127 MA's), (Start: 72 @44356 has 2 MA's), (91, 44251), (96, 44212), (117, 44128), (121, 44116), (139, 44068), (143, 44056), (145, 44050), (156, 44023), (159, 44020),

Gene: BiancaTri92\_73 Start: 44785, Stop: 44372, Start Num: 55

Candidate Starts for BiancaTri92\_73:

(Start: 55 @44785 has 127 MA's), (65, 44749), (90, 44620), (93, 44599), (111, 44515), (117, 44494), (121, 44482), (128, 44464), (130, 44458), (136, 44443), (156, 44389), (159, 44386),

Gene: Blinn1\_81 Start: 44565, Stop: 44179, Start Num: 55

Candidate Starts for Blinn1\_81:

(34, 44610), (Start: 43 @44589 has 7 MA's), (Start: 55 @44565 has 127 MA's), (76, 44469), (82, 44439), (96, 44361), (100, 44340), (110, 44301), (111, 44298), (118, 44274), (142, 44214),

Gene: Blue7\_78 Start: 43561, Stop: 43148, Start Num: 43

Candidate Starts for Blue7\_78:

(Start: 43 @43561 has 7 MA's), (Start: 55 @43534 has 127 MA's), (70, 43477), (76, 43438), (96, 43330), (97, 43327), (100, 43309), (110, 43270), (111, 43267), (118, 43243), (124, 43225), (132, 43210), (146, 43171),

Gene: BobSwaget\_67 Start: 42656, Stop: 42240, Start Num: 55

Candidate Starts for BobSwaget\_67:

(Start: 48 @42668 has 3 MA's), (Start: 55 @42656 has 127 MA's), (Start: 72 @42593 has 2 MA's), (83, 42521), (102, 42422), (107, 42389), (111, 42386), (117, 42365), (121, 42353), (136, 42311), (143, 42290), (147, 42278), (156, 42257), (157, 42254), (159, 42251),

Gene: BogosyJay\_76 Start: 44392, Stop: 43976, Start Num: 54

Candidate Starts for BogosyJay\_76:

(Start: 44 @44416 has 10 MA's), (Start: 54 @44392 has 29 MA's), (Start: 61 @44368 has 3 MA's), (70, 44335), (90, 44224), (93, 44203), (110, 44122), (111, 44119), (117, 44098), (118, 44095), (123, 44077), (159, 43987),

Gene: Bowtie\_78 Start: 44818, Stop: 44348, Start Num: 41

Candidate Starts for Bowtie\_78:

(40, 44821), (Start: 41 @44818 has 1 MA's), (66, 44749), (73, 44704), (87, 44635), (93, 44596), (98, 44569), (100, 44554), (103, 44545), (110, 44515), (111, 44512), (117, 44491), (148, 44398), (152, 44389),

Gene: Bradman\_77 Start: 44213, Stop: 43776, Start Num: 55

Candidate Starts for Bradman\_77:

(19, 44315), (21, 44309), (Start: 55 @44213 has 127 MA's), (96, 44003), (108, 43943), (117, 43913), (118, 43910), (121, 43901), (136, 43862), (164, 43790),

Gene: Bud\_72 Start: 43215, Stop: 42778, Start Num: 53

Candidate Starts for Bud\_72:

(Start: 47 @43227 has 14 MA's), (Start: 53 @43215 has 23 MA's), (Start: 61 @43191 has 3 MA's), (Start: 72 @43152 has 2 MA's), (73, 43134), (87, 43065), (93, 43026), (98, 42999), (100, 42984), (103, 42975), (110, 42945), (111, 42942), (117, 42921), (148, 42828), (152, 42819),

Gene: Buggy\_76 Start: 45178, Stop: 44759, Start Num: 55

Candidate Starts for Buggy\_76:

(31, 45226), (40, 45208), (46, 45193), (Start: 55 @45178 has 127 MA's), (Start: 72 @45115 has 2 MA's), (93, 44992), (96, 44971), (111, 44908), (121, 44875), (136, 44830), (139, 44821), (144, 44806), (150, 44788), (152, 44785), (157, 44773),

Gene: C3\_70 Start: 44797, Stop: 44378, Start Num: 55

Candidate Starts for C3\_70:

(Start: 55 @44797 has 127 MA's), (69, 44743), (78, 44689), (93, 44614), (102, 44566), (110, 44533), (111, 44530), (117, 44509), (131, 44467), (143, 44434), (152, 44410), (160, 44392),

Gene: CRB1\_76 Start: 45367, Stop: 44954, Start Num: 55

Candidate Starts for CRB1\_76:

(20, 45469), (Start: 55 @45367 has 127 MA's), (Start: 72 @45304 has 2 MA's), (73, 45286), (91, 45199), (96, 45160), (117, 45076), (118, 45073), (143, 45004), (147, 44992), (156, 44971),

Gene: Catalina\_78 Start: 44214, Stop: 43795, Start Num: 54

Candidate Starts for Catalina\_78:

(10, 44463), (Start: 44 @44238 has 10 MA's), (Start: 54 @44214 has 29 MA's), (Start: 61 @44190 has 3 MA's), (71, 44154), (79, 44103), (90, 44049), (93, 44028), (96, 44007), (100, 43986), (102, 43980), (110, 43947), (111, 43944), (117, 43923), (118, 43920), (142, 43854), (143, 43851), (159, 43812), (160, 43809), (162, 43806),

Gene: Centaur\_75 Start: 44736, Stop: 44317, Start Num: 55

Candidate Starts for Centaur\_75:

(19, 44835), (21, 44829), (31, 44778), (Start: 55 @44736 has 127 MA's), (Start: 72 @44673 has 2 MA's), (73, 44655), (91, 44568), (96, 44529), (102, 44502), (111, 44466), (117, 44445), (118, 44442), (121, 44433), (144, 44367), (150, 44349), (157, 44334),

Gene: Changeling\_73 Start: 45069, Stop: 44656, Start Num: 55

Candidate Starts for Changeling\_73:

(Start: 55 @45069 has 127 MA's), (77, 44967), (87, 44922), (91, 44901), (93, 44883), (96, 44862), (117, 44778), (118, 44775), (121, 44766), (136, 44727), (159, 44670),

Gene: Chargerpower\_72 Start: 43217, Stop: 42828, Start Num: 55

Candidate Starts for Chargerpower\_72:

(Start: 55 @43217 has 127 MA's), (91, 43052), (101, 42986), (110, 42953), (118, 42926), (119, 42923), (137, 42875), (138, 42869),

Gene: Charm\_70 Start: 43332, Stop: 42913, Start Num: 54

Candidate Starts for Charm\_70:

(Start: 54 @43332 has 29 MA's), (60, 43311), (Start: 61 @43308 has 3 MA's), (70, 43275), (89, 43167), (90, 43164), (93, 43143), (96, 43122), (110, 43062), (111, 43059), (117, 43038), (123, 43017), (136, 42987),

Gene: Che12\_79 Start: 44481, Stop: 44062, Start Num: 55

Candidate Starts for Che12\_79:

(1, 44940), (3, 44883), (4, 44877), (7, 44754), (8, 44751), (20, 44574), (30, 44529), (Start: 55 @44481 has 127 MA's), (69, 44427), (Start: 72 @44418 has 2 MA's), (73, 44400), (74, 44397), (80, 44361), (83, 44346), (93, 44295), (95, 44283), (102, 44247), (108, 44214), (121, 44172), (142, 44115), (157, 44076),

Gene: ChipMunk\_75 Start: 46219, Stop: 45800, Start Num: 55

Candidate Starts for ChipMunk\_75:

(31, 46267), (Start: 55 @46219 has 127 MA's), (65, 46183), (Start: 72 @46156 has 2 MA's), (73, 46138), (93, 46033), (111, 45949), (117, 45928), (118, 45925), (121, 45916), (133, 45877), (139, 45862), (144, 45847), (150, 45829), (152, 45826), (157, 45814),

Gene: CloudWang3\_77 Start: 43853, Stop: 43440, Start Num: 43

Candidate Starts for CloudWang3\_77:



(Start: 43 @43853 has 7 MA's), (Start: 55 @43826 has 127 MA's), (70, 43769), (76, 43730), (96, 43622), (97, 43619), (100, 43601), (110, 43562), (111, 43559), (118, 43535), (124, 43517), (132, 43502), (146, 43463),

Gene: Colin\_74 Start: 45728, Stop: 45375, Start Num: 72

Candidate Starts for Colin\_74:

(Start: 55 @45791 has 127 MA's), (71, 45731), (Start: 72 @45728 has 2 MA's), (77, 45689), (93, 45605), (95, 45593), (117, 45500), (121, 45488), (144, 45425), (150, 45407), (159, 45389),

Gene: Conquerage\_74 Start: 43913, Stop: 43470, Start Num: 44

Candidate Starts for Conquerage\_74:

(Start: 44 @43913 has 10 MA's), (Start: 54 @43889 has 29 MA's), (Start: 61 @43865 has 3 MA's), (71, 43829), (79, 43778), (90, 43724), (93, 43703), (96, 43682), (100, 43661), (102, 43655), (110, 43622), (111, 43619), (117, 43598), (118, 43595), (142, 43529), (143, 43526), (160, 43484), (162, 43481),

Gene: Cookiedough\_77 Start: 44279, Stop: 43878, Start Num: 47

Candidate Starts for Cookiedough\_77:

(Start: 47 @44279 has 14 MA's), (Start: 55 @44264 has 127 MA's), (Start: 61 @44240 has 3 MA's), (69, 44210), (Start: 72 @44201 has 2 MA's), (73, 44183), (76, 44168), (102, 44033), (110, 44000), (111, 43997), (118, 43973), (121, 43964), (136, 43931), (146, 43901), (147, 43898),

Gene: Crucio\_75 Start: 45094, Stop: 44675, Start Num: 55

Candidate Starts for Crucio\_75:

(39, 45133), (Start: 48 @45106 has 3 MA's), (Start: 55 @45094 has 127 MA's), (68, 45043), (Start: 72 @45031 has 2 MA's), (73, 45013), (93, 44908), (95, 44896), (96, 44887), (117, 44803), (121, 44791), (136, 44746), (144, 44722), (152, 44701), (157, 44689),

Gene: D29\_70 Start: 45277, Stop: 44858, Start Num: 55

Candidate Starts for D29\_70:

(Start: 55 @45277 has 127 MA's), (78, 45169), (93, 45094), (102, 45046), (110, 45013), (111, 45010), (117, 44989), (131, 44947), (143, 44914), (147, 44902), (152, 44890), (160, 44872),

Gene: D32\_76 Start: 45277, Stop: 44858, Start Num: 55

Candidate Starts for D32\_76:

(Start: 55 @45277 has 127 MA's), (78, 45169), (93, 45094), (102, 45046), (110, 45013), (111, 45010), (117, 44989), (131, 44947), (143, 44914), (147, 44902), (152, 44890), (160, 44872),

Gene: DBQu4n\_77 Start: 45257, Stop: 44838, Start Num: 55

Candidate Starts for DBQu4n\_77:

(Start: 55 @45257 has 127 MA's), (69, 45203), (78, 45149), (93, 45074), (102, 45026), (110, 44993), (111, 44990), (117, 44969), (131, 44927), (136, 44915), (143, 44894), (147, 44882), (152, 44870), (160, 44852),

Gene: DaVinci\_75 Start: 43029, Stop: 42628, Start Num: 47

Candidate Starts for DaVinci\_75:

(Start: 47 @43029 has 14 MA's), (Start: 55 @43014 has 127 MA's), (Start: 61 @42990 has 3 MA's), (69, 42960), (Start: 72 @42951 has 2 MA's), (73, 42933), (76, 42918), (102, 42783), (110, 42750), (111, 42747), (118, 42723), (121, 42714), (136, 42681), (146, 42651), (147, 42648),

Gene: Dalmatian\_75 Start: 44912, Stop: 44493, Start Num: 55

Candidate Starts for Dalmatian\_75:

(14, 45080), (16, 45062), (17, 45059), (33, 44960), (Start: 55 @44912 has 127 MA's), (Start: 72 @44849 has 2 MA's), (73, 44831), (93, 44726), (111, 44642), (117, 44621), (121, 44609), (136,

44564), (144, 44540), (147, 44531), (157, 44507),

Gene: DarthPhader\_72 Start: 45280, Stop: 44870, Start Num: 50

Candidate Starts for DarthPhader\_72:

(Start: 50 @45280 has 2 MA's), (75, 45184), (86, 45127), (93, 45085), (110, 45004), (119, 44974), (142, 44911),

Gene: DekHockey33\_84 Start: 45328, Stop: 44930, Start Num: 55

Candidate Starts for DekHockey33\_84:

(Start: 55 @45328 has 127 MA's), (62, 45298), (77, 45220), (93, 45145), (95, 45133), (110, 45064), (111, 45061), (139, 44986), (157, 44938),

Gene: Deloris\_74 Start: 44518, Stop: 44105, Start Num: 55

Candidate Starts for Deloris\_74:

(33, 44563), (Start: 44 @44542 has 10 MA's), (Start: 55 @44518 has 127 MA's), (Start: 72 @44455 has 2 MA's), (73, 44437), (91, 44350), (96, 44311), (102, 44284), (117, 44227), (118, 44224), (143, 44155), (156, 44122),

Gene: Dignity\_76 Start: 45216, Stop: 44797, Start Num: 55

Candidate Starts for Dignity\_76:

(31, 45264), (40, 45246), (46, 45231), (Start: 55 @45216 has 127 MA's), (Start: 72 @45153 has 2 MA's), (93, 45030), (96, 45009), (111, 44946), (121, 44913), (136, 44868), (139, 44859), (144, 44844), (150, 44826), (152, 44823), (157, 44811),

Gene: Dorothea\_77 Start: 44275, Stop: 43874, Start Num: 47

Candidate Starts for Dorothea\_77:

(Start: 47 @44275 has 14 MA's), (Start: 55 @44260 has 127 MA's), (Start: 61 @44236 has 3 MA's), (69, 44206), (Start: 72 @44197 has 2 MA's), (73, 44179), (76, 44164), (102, 44029), (110, 43996), (111, 43993), (118, 43969), (121, 43960), (136, 43927), (146, 43897), (147, 43894),

Gene: Drake55\_76 Start: 44822, Stop: 44391, Start Num: 48

Candidate Starts for Drake55\_76:

(31, 44861), (Start: 48 @44822 has 3 MA's), (Start: 55 @44810 has 127 MA's), (Start: 72 @44747 has 2 MA's), (73, 44729), (93, 44624), (96, 44603), (102, 44576), (111, 44540), (117, 44519), (118, 44516), (121, 44507), (144, 44441), (147, 44432), (150, 44423), (157, 44408),

Gene: DreamTeam1\_70 Start: 43179, Stop: 42760, Start Num: 54

Candidate Starts for DreamTeam1\_70:

(Start: 54 @43179 has 29 MA's), (60, 43158), (Start: 61 @43155 has 3 MA's), (70, 43122), (89, 43014), (90, 43011), (93, 42990), (96, 42969), (110, 42909), (111, 42906), (117, 42885), (123, 42864), (136, 42834),

Gene: DudeLittle\_73 Start: 44678, Stop: 44259, Start Num: 55

Candidate Starts for DudeLittle\_73:

(14, 44846), (16, 44828), (17, 44825), (33, 44726), (Start: 55 @44678 has 127 MA's), (Start: 72 @44615 has 2 MA's), (73, 44597), (93, 44492), (111, 44408), (117, 44387), (121, 44375), (136, 44330), (144, 44306), (147, 44297), (157, 44273),

Gene: Duplo\_77 Start: 45314, Stop: 44895, Start Num: 55

Candidate Starts for Duplo\_77:

(Start: 55 @45314 has 127 MA's), (69, 45260), (78, 45206), (93, 45131), (102, 45083), (110, 45050), (111, 45047), (117, 45026), (131, 44984), (136, 44972), (143, 44951), (147, 44939), (152, 44927), (160, 44909),

Gene: EZMoney23\_71 Start: 44532, Stop: 44167, Start Num: 68

Candidate Starts for EZMoney23\_71:

(Start: 55 @44583 has 127 MA's), (65, 44547), (68, 44532), (Start: 72 @44520 has 2 MA's), (73, 44502), (97, 44370), (111, 44310), (118, 44286), (136, 44238), (139, 44229), (143, 44217), (156, 44184),

Gene: EagleEye\_80 Start: 45356, Stop: 44949, Start Num: 54

Candidate Starts for EagleEye\_80:

(Start: 54 @45356 has 29 MA's), (Start: 61 @45332 has 3 MA's), (65, 45320), (73, 45275), (88, 45206), (90, 45191), (93, 45170), (97, 45146), (110, 45089), (111, 45086), (121, 45053), (155, 44963), (156, 44960),

Gene: Ebony\_77 Start: 44349, Stop: 43912, Start Num: 53

Candidate Starts for Ebony\_77:

(Start: 47 @44361 has 14 MA's), (Start: 53 @44349 has 23 MA's), (Start: 61 @44325 has 3 MA's), (Start: 72 @44286 has 2 MA's), (87, 44199), (93, 44160), (98, 44133), (100, 44118), (103, 44109), (110, 44079), (111, 44076), (117, 44055), (148, 43962), (152, 43953),

Gene: Echild\_75 Start: 44443, Stop: 44030, Start Num: 55

Candidate Starts for Echild\_75:

(12, 44668), (13, 44644), (15, 44602), (17, 44584), (39, 44476), (46, 44455), (Start: 55 @44443 has 127 MA's), (71, 44383), (Start: 72 @44380 has 2 MA's), (91, 44275), (96, 44236), (117, 44152), (118, 44149), (121, 44140), (139, 44092), (143, 44080), (145, 44074), (156, 44047), (159, 44044),

Gene: EdogawaKiddo\_74 Start: 44156, Stop: 43761, Start Num: 61

Candidate Starts for EdogawaKiddo\_74:

(Start: 54 @44180 has 29 MA's), (Start: 61 @44156 has 3 MA's), (71, 44120), (79, 44069), (90, 44015), (93, 43994), (96, 43973), (100, 43952), (102, 43946), (110, 43913), (111, 43910), (117, 43889), (118, 43886), (142, 43820), (143, 43817), (159, 43778), (160, 43775), (162, 43772),

Gene: Eidsmoe\_74 Start: 43881, Stop: 43462, Start Num: 54

Candidate Starts for Eidsmoe\_74:

(Start: 44 @43905 has 10 MA's), (Start: 54 @43881 has 29 MA's), (Start: 61 @43857 has 3 MA's), (71, 43821), (79, 43770), (90, 43716), (93, 43695), (96, 43674), (100, 43653), (102, 43647), (110, 43614), (111, 43611), (117, 43590), (118, 43587), (142, 43521), (143, 43518), (160, 43476), (162, 43473),

Gene: Elephantoon\_76 Start: 44034, Stop: 43615, Start Num: 54

Candidate Starts for Elephantoon\_76:

(Start: 54 @44034 has 29 MA's), (Start: 61 @44010 has 3 MA's), (70, 43977), (73, 43953), (89, 43869), (90, 43866), (93, 43845), (110, 43764), (111, 43761), (118, 43737), (123, 43719),

Gene: EmyBug\_73 Start: 43907, Stop: 43464, Start Num: 44

Candidate Starts for EmyBug\_73:

(Start: 44 @43907 has 10 MA's), (Start: 54 @43883 has 29 MA's), (Start: 61 @43859 has 3 MA's), (71, 43823), (79, 43772), (90, 43718), (93, 43697), (96, 43676), (100, 43655), (102, 43649), (110, 43616), (111, 43613), (117, 43592), (118, 43589), (142, 43523), (143, 43520), (160, 43478), (162, 43475),

Gene: Epsocamisio\_80 Start: 44618, Stop: 44220, Start Num: 55

Candidate Starts for Epsocamisio\_80:

(Start: 55 @44618 has 127 MA's), (62, 44588), (77, 44510), (93, 44435), (95, 44423), (110, 44354), (111, 44351), (139, 44276), (157, 44228),

Gene: Equemioh13\_74 Start: 44641, Stop: 44222, Start Num: 55

Candidate Starts for Equemioh13\_74:

(31, 44683), (Start: 55 @44641 has 127 MA's), (Start: 72 @44578 has 2 MA's), (73, 44560), (91, 44473), (96, 44434), (102, 44407), (111, 44371), (117, 44350), (118, 44347), (121, 44338), (144, 44272), (150, 44254), (157, 44239),

Gene: EricB\_76 Start: 43621, Stop: 43220, Start Num: 47

Candidate Starts for EricB\_76:

(Start: 47 @43621 has 14 MA's), (Start: 55 @43606 has 127 MA's), (Start: 61 @43582 has 3 MA's), (69, 43552), (Start: 72 @43543 has 2 MA's), (73, 43525), (76, 43510), (102, 43375), (110, 43342), (111, 43339), (118, 43315), (121, 43306), (136, 43273), (146, 43243), (147, 43240),

Gene: Et2Brutus\_76 Start: 44312, Stop: 43875, Start Num: 53

Candidate Starts for Et2Brutus\_76:

(Start: 47 @44324 has 14 MA's), (Start: 53 @44312 has 23 MA's), (Start: 61 @44288 has 3 MA's), (Start: 72 @44249 has 2 MA's), (73, 44231), (87, 44162), (93, 44123), (98, 44096), (100, 44081), (103, 44072), (110, 44042), (111, 44039), (117, 44018), (148, 43925), (152, 43916),

Gene: EvilGenius\_74 Start: 46220, Stop: 45801, Start Num: 55

Candidate Starts for EvilGenius\_74:

(31, 46268), (Start: 55 @46220 has 127 MA's), (65, 46184), (Start: 72 @46157 has 2 MA's), (73, 46139), (93, 46034), (111, 45950), (117, 45929), (118, 45926), (121, 45917), (133, 45878), (139, 45863), (144, 45848), (150, 45830), (152, 45827), (157, 45815),

Gene: ExplosioNervosa\_74 Start: 43949, Stop: 43530, Start Num: 54

Candidate Starts for ExplosioNervosa\_74:

(Start: 44 @43973 has 10 MA's), (Start: 54 @43949 has 29 MA's), (Start: 61 @43925 has 3 MA's), (71, 43889), (79, 43838), (90, 43784), (93, 43763), (96, 43742), (100, 43721), (102, 43715), (110, 43682), (111, 43679), (117, 43658), (118, 43655), (142, 43589), (143, 43586), (160, 43544), (162, 43541),

Gene: Fameo\_73 Start: 44721, Stop: 44302, Start Num: 55

Candidate Starts for Fameo\_73:

(33, 44769), (Start: 55 @44721 has 127 MA's), (Start: 72 @44658 has 2 MA's), (73, 44640), (93, 44535), (111, 44451), (118, 44427), (121, 44418), (136, 44373), (144, 44349), (147, 44340), (157, 44316),

Gene: FatCactus\_70 Start: 43678, Stop: 43250, Start Num: 55

Candidate Starts for FatCactus\_70:

(Start: 55 @43678 has 127 MA's), (71, 43621), (77, 43579), (83, 43552), (95, 43489), (118, 43393), (120, 43387), (134, 43348), (151, 43297),

Gene: Fayely\_74 Start: 43874, Stop: 43431, Start Num: 44

Candidate Starts for Fayely\_74:

(Start: 44 @43874 has 10 MA's), (Start: 54 @43850 has 29 MA's), (Start: 61 @43826 has 3 MA's), (71, 43790), (79, 43739), (90, 43685), (93, 43664), (96, 43643), (100, 43622), (102, 43616), (110, 43583), (111, 43580), (117, 43559), (118, 43556), (142, 43490), (143, 43487), (160, 43445), (162, 43442),

Gene: Fibonacci\_76 Start: 44318, Stop: 43881, Start Num: 53

Candidate Starts for Fibonacci\_76:

(Start: 47 @44330 has 14 MA's), (Start: 53 @44318 has 23 MA's), (Start: 61 @44294 has 3 MA's), (Start: 72 @44255 has 2 MA's), (87, 44168), (93, 44129), (98, 44102), (100, 44087), (103, 44078), (110, 44048), (111, 44045), (117, 44024), (148, 43931), (152, 43922),

Gene: FiringLine\_75 Start: 45076, Stop: 44657, Start Num: 55

Candidate Starts for FiringLine\_75:

(39, 45115), (Start: 48 @45088 has 3 MA's), (Start: 55 @45076 has 127 MA's), (68, 45025), (Start: 72 @45013 has 2 MA's), (73, 44995), (93, 44890), (95, 44878), (96, 44869), (117, 44785), (121, 44773), (136, 44728), (144, 44704), (152, 44683), (157, 44671),

Gene: First\_0075 Start: 44772, Stop: 44359, Start Num: 55

Candidate Starts for First\_0075:

(Start: 55 @44772 has 127 MA's), (68, 44721), (71, 44712), (Start: 72 @44709 has 2 MA's), (73, 44691), (91, 44604), (96, 44565), (102, 44538), (117, 44481), (143, 44409), (156, 44376),

Gene: Flare16\_75 Start: 44780, Stop: 44361, Start Num: 55

Candidate Starts for Flare16\_75:

(19, 44879), (21, 44873), (31, 44822), (Start: 55 @44780 has 127 MA's), (Start: 72 @44717 has 2 MA's), (73, 44699), (91, 44612), (96, 44573), (102, 44546), (111, 44510), (117, 44489), (118, 44486), (121, 44477), (144, 44411), (150, 44393), (157, 44378),

Gene: Flaverint\_78 Start: 44776, Stop: 44339, Start Num: 53

Candidate Starts for Flaverint\_78:

(Start: 47 @44788 has 14 MA's), (Start: 53 @44776 has 23 MA's), (Start: 61 @44752 has 3 MA's), (Start: 72 @44713 has 2 MA's), (73, 44695), (87, 44626), (93, 44587), (98, 44560), (100, 44545), (103, 44536), (110, 44506), (111, 44503), (117, 44482), (148, 44389), (152, 44380),

Gene: Gail\_76 Start: 45154, Stop: 44759, Start Num: 54

Candidate Starts for Gail\_76:

(Start: 54 @45154 has 29 MA's), (Start: 61 @45130 has 3 MA's), (88, 45007), (91, 44989), (93, 44971), (95, 44959), (101, 44923), (110, 44890), (116, 44869), (118, 44863),

Gene: Garak\_78 Start: 43777, Stop: 43391, Start Num: 55

Candidate Starts for Garak\_78:

(Start: 43 @43804 has 7 MA's), (Start: 55 @43777 has 127 MA's), (70, 43720), (76, 43681), (96, 43573), (97, 43570), (100, 43552), (110, 43513), (111, 43510), (118, 43486), (124, 43468), (132, 43453), (146, 43414),

Gene: GaugeLDP\_70 Start: 44348, Stop: 43935, Start Num: 55

Candidate Starts for GaugeLDP\_70:

(Start: 55 @44348 has 127 MA's), (73, 44267), (83, 44213), (111, 44078), (117, 44057), (133, 44012), (136, 44006), (142, 43988), (150, 43964), (156, 43952), (157, 43949),

Gene: Georgie2\_76 Start: 45121, Stop: 44702, Start Num: 55

Candidate Starts for Georgie2\_76:

(39, 45160), (Start: 48 @45133 has 3 MA's), (Start: 55 @45121 has 127 MA's), (65, 45085), (68, 45070), (Start: 72 @45058 has 2 MA's), (73, 45040), (93, 44935), (95, 44923), (96, 44914), (117, 44830), (121, 44818), (136, 44773), (144, 44749), (152, 44728), (157, 44716),

Gene: Gilberta\_74 Start: 43652, Stop: 43215, Start Num: 53

Candidate Starts for Gilberta\_74:

(Start: 47 @43664 has 14 MA's), (Start: 53 @43652 has 23 MA's), (Start: 61 @43628 has 3 MA's), (Start: 72 @43589 has 2 MA's), (73, 43571), (85, 43508), (87, 43502), (93, 43463), (98, 43436), (100, 43421), (103, 43412), (110, 43382), (111, 43379), (117, 43358), (148, 43265), (152, 43256),

Gene: Gladiator\_74 Start: 43707, Stop: 43294, Start Num: 43

Candidate Starts for Gladiator\_74:

(Start: 43 @43707 has 7 MA's), (Start: 55 @43680 has 127 MA's), (70, 43623), (76, 43584), (96, 43476), (97, 43473), (100, 43455), (110, 43416), (111, 43413), (118, 43389), (124, 43371), (132, 43356), (146, 43317),

Gene: Gratitude\_72 Start: 44641, Stop: 44222, Start Num: 55

Candidate Starts for Gratitude\_72:

(31, 44683), (Start: 55 @44641 has 127 MA's), (Start: 72 @44578 has 2 MA's), (73, 44560), (91, 44473), (96, 44434), (102, 44407), (111, 44371), (117, 44350), (118, 44347), (121, 44338), (144, 44272), (150, 44254), (157, 44239),

Gene: GreedyLawyer\_72 Start: 43594, Stop: 43193, Start Num: 47

Candidate Starts for GreedyLawyer\_72:

(Start: 47 @43594 has 14 MA's), (Start: 55 @43579 has 127 MA's), (Start: 61 @43555 has 3 MA's), (69, 43525), (Start: 72 @43516 has 2 MA's), (73, 43498), (76, 43483), (102, 43348), (110, 43315), (111, 43312), (118, 43288), (121, 43279), (136, 43246), (146, 43216), (147, 43213),

Gene: Gruunaga\_76 Start: 43635, Stop: 43249, Start Num: 55

Candidate Starts for Gruunaga\_76:

(Start: 43 @43662 has 7 MA's), (Start: 55 @43635 has 127 MA's), (70, 43578), (76, 43539), (96, 43431), (97, 43428), (100, 43410), (110, 43371), (111, 43368), (118, 43344), (124, 43326), (132, 43311), (146, 43272),

Gene: Hammer\_77 Start: 43342, Stop: 42956, Start Num: 55

Candidate Starts for Hammer\_77:

(Start: 43 @43369 has 7 MA's), (Start: 55 @43342 has 127 MA's), (70, 43285), (76, 43246), (96, 43138), (97, 43135), (100, 43117), (110, 43078), (111, 43075), (118, 43051), (124, 43033), (132, 43018), (146, 42979),

Gene: Hanray\_74 Start: 44188, Stop: 43793, Start Num: 61

Candidate Starts for Hanray\_74:

(Start: 54 @44212 has 29 MA's), (Start: 61 @44188 has 3 MA's), (71, 44152), (79, 44101), (90, 44047), (93, 44026), (96, 44005), (100, 43984), (102, 43978), (110, 43945), (111, 43942), (117, 43921), (118, 43918), (142, 43852), (143, 43849), (159, 43810), (160, 43807), (162, 43804),

Gene: HarryHoudini\_75 Start: 44820, Stop: 44392, Start Num: 48

Candidate Starts for HarryHoudini\_75:

(Start: 48 @44820 has 3 MA's), (Start: 55 @44808 has 127 MA's), (Start: 72 @44745 has 2 MA's), (73, 44727), (91, 44640), (93, 44622), (96, 44601), (111, 44538), (117, 44517), (118, 44514), (121, 44505), (144, 44439), (150, 44421), (157, 44406),

Gene: Heffalump\_72 Start: 45189, Stop: 44770, Start Num: 55

Candidate Starts for Heffalump\_72:

(33, 45237), (Start: 55 @45189 has 127 MA's), (Start: 72 @45126 has 2 MA's), (73, 45108), (93, 45003), (111, 44919), (118, 44895), (121, 44886), (136, 44841), (144, 44817), (147, 44808), (157, 44784),

Gene: Herbertwm\_71 Start: 44474, Stop: 44079, Start Num: 55

Candidate Starts for Herbertwm\_71:

(9, 44738), (25, 44561), (Start: 55 @44474 has 127 MA's), (Start: 72 @44411 has 2 MA's), (78, 44366), (83, 44342), (85, 44336), (90, 44312), (91, 44309), (95, 44279), (100, 44249), (102, 44243), (103, 44240), (110, 44210), (111, 44207), (126, 44159), (154, 44090),

Gene: Hexamo\_76 Start: 43311, Stop: 42925, Start Num: 55

Candidate Starts for Hexamo\_76:

(Start: 43 @43338 has 7 MA's), (Start: 55 @43311 has 127 MA's), (70, 43254), (76, 43215), (96, 43107), (97, 43104), (100, 43086), (110, 43047), (111, 43044), (118, 43020), (124, 43002), (132, 42987), (146, 42948),

Gene: Holec\_74 Start: 44204, Stop: 43809, Start Num: 61

Candidate Starts for Holec\_74:

(Start: 54 @44228 has 29 MA's), (Start: 61 @44204 has 3 MA's), (71, 44168), (79, 44117), (90, 44063), (93, 44042), (96, 44021), (100, 44000), (102, 43994), (110, 43961), (111, 43958), (117, 43937), (118, 43934), (142, 43868), (143, 43865), (159, 43826), (160, 43823), (162, 43820),

Gene: Hoot\_72 Start: 41464, Stop: 41078, Start Num: 55

Candidate Starts for Hoot\_72:

(Start: 47 @41479 has 14 MA's), (Start: 55 @41464 has 127 MA's), (Start: 61 @41440 has 3 MA's), (69, 41410), (Start: 72 @41401 has 2 MA's), (73, 41383), (76, 41368), (102, 41233), (110, 41200), (111, 41197), (118, 41173), (121, 41164), (136, 41131), (146, 41101), (147, 41098),

Gene: HortumSL17\_77 Start: 44236, Stop: 43793, Start Num: 44

Candidate Starts for HortumSL17\_77:

(10, 44461), (Start: 44 @44236 has 10 MA's), (Start: 54 @44212 has 29 MA's), (Start: 61 @44188 has 3 MA's), (71, 44152), (79, 44101), (90, 44047), (93, 44026), (96, 44005), (100, 43984), (102, 43978), (110, 43945), (111, 43942), (117, 43921), (118, 43918), (142, 43852), (143, 43849), (159, 43810), (160, 43807), (162, 43804),

Gene: Hutc2\_72 Start: 43201, Stop: 42764, Start Num: 53

Candidate Starts for Hutc2\_72:

(Start: 47 @43213 has 14 MA's), (Start: 53 @43201 has 23 MA's), (Start: 61 @43177 has 3 MA's), (Start: 72 @43138 has 2 MA's), (87, 43051), (93, 43012), (98, 42985), (100, 42970), (103, 42961), (110, 42931), (111, 42928), (117, 42907), (148, 42814), (152, 42805),

Gene: Insomnia\_76 Start: 44493, Stop: 44056, Start Num: 53

Candidate Starts for Insomnia\_76:

(Start: 47 @44505 has 14 MA's), (Start: 53 @44493 has 23 MA's), (Start: 61 @44469 has 3 MA's), (Start: 72 @44430 has 2 MA's), (87, 44343), (93, 44304), (98, 44277), (100, 44262), (103, 44253), (110, 44223), (111, 44220), (117, 44199), (148, 44106), (152, 44097),

Gene: IronMan\_72 Start: 45946, Stop: 45518, Start Num: 44

Candidate Starts for IronMan\_72:

(Start: 44 @45946 has 10 MA's), (70, 45862), (73, 45838), (78, 45811), (93, 45736), (111, 45649), (119, 45622), (131, 45586), (151, 45532), (153, 45529),

Gene: Iwokeuplikedis\_76 Start: 45258, Stop: 44842, Start Num: 55

Candidate Starts for Iwokeuplikedis\_76:

(Start: 55 @45258 has 127 MA's), (Start: 72 @45195 has 2 MA's), (73, 45177), (91, 45090), (93, 45072), (96, 45051), (102, 45024), (111, 44988), (117, 44967), (121, 44955), (144, 44889), (150, 44871), (157, 44856),

Gene: JSwag\_83 Start: 44903, Stop: 44505, Start Num: 55

Candidate Starts for JSwag\_83:

(Start: 55 @44903 has 127 MA's), (62, 44873), (77, 44795), (93, 44720), (95, 44708), (110, 44639), (111, 44636), (139, 44561), (157, 44513),

Gene: Jaan\_73 Start: 46110, Stop: 45688, Start Num: 45

Candidate Starts for Jaan\_73:

(Start: 45 @46110 has 4 MA's), (Start: 55 @46089 has 127 MA's), (64, 46059), (70, 46032), (73, 46008), (78, 45981), (86, 45948), (92, 45915), (93, 45906), (111, 45819), (119, 45792), (131, 45756), (139, 45735), (151, 45702), (153, 45699),

Gene: Jabith\_76 Start: 44510, Stop: 44073, Start Num: 53

Candidate Starts for Jabith\_76:

(Start: 47 @44522 has 14 MA's), (Start: 53 @44510 has 23 MA's), (Start: 61 @44486 has 3 MA's), (Start: 72 @44447 has 2 MA's), (87, 44360), (93, 44321), (98, 44294), (100, 44279), (103, 44270), (110, 44240), (111, 44237), (117, 44216), (148, 44123), (152, 44114),

Gene: Jeeves\_78 Start: 44070, Stop: 43675, Start Num: 54

Candidate Starts for Jeeves\_78:

(Start: 54 @44070 has 29 MA's), (87, 43926), (88, 43923), (91, 43905), (93, 43887), (95, 43875), (101, 43839), (110, 43806), (118, 43779), (119, 43776),

Gene: Jerm\_76 Start: 45198, Stop: 44779, Start Num: 55

Candidate Starts for Jerm\_76:

(19, 45303), (21, 45297), (31, 45246), (40, 45228), (46, 45213), (Start: 55 @45198 has 127 MA's), (Start: 72 @45135 has 2 MA's), (93, 45012), (96, 44991), (111, 44928), (121, 44895), (136, 44850), (139, 44841), (144, 44826), (150, 44808), (152, 44805), (157, 44793),

Gene: JewelBug\_76 Start: 44366, Stop: 43965, Start Num: 47

Candidate Starts for JewelBug\_76:

(Start: 47 @44366 has 14 MA's), (Start: 55 @44351 has 127 MA's), (Start: 61 @44327 has 3 MA's), (69, 44297), (Start: 72 @44288 has 2 MA's), (73, 44270), (76, 44255), (102, 44120), (110, 44087), (111, 44084), (118, 44060), (121, 44051), (136, 44018), (146, 43988), (147, 43985),

Gene: Jiawan\_73 Start: 44220, Stop: 43825, Start Num: 61

Candidate Starts for Jiawan\_73:

(Start: 54 @44244 has 29 MA's), (Start: 61 @44220 has 3 MA's), (71, 44184), (79, 44133), (90, 44079), (93, 44058), (96, 44037), (100, 44016), (102, 44010), (110, 43977), (111, 43974), (117, 43953), (118, 43950), (142, 43884), (143, 43881), (159, 43842), (160, 43839), (162, 43836),

Gene: Jordennis\_75 Start: 43860, Stop: 43459, Start Num: 47

Candidate Starts for Jordennis\_75:

(Start: 47 @43860 has 14 MA's), (Start: 55 @43845 has 127 MA's), (Start: 61 @43821 has 3 MA's), (69, 43791), (Start: 72 @43782 has 2 MA's), (73, 43764), (76, 43749), (102, 43614), (110, 43581), (111, 43578), (118, 43554), (121, 43545), (136, 43512), (146, 43482), (147, 43479),

Gene: Joselito\_76 Start: 44530, Stop: 44093, Start Num: 53

Candidate Starts for Joselito\_76:

(Start: 47 @44542 has 14 MA's), (Start: 53 @44530 has 23 MA's), (Start: 61 @44506 has 3 MA's), (Start: 72 @44467 has 2 MA's), (73, 44449), (87, 44380), (93, 44341), (98, 44314), (100, 44299), (103, 44290), (110, 44260), (111, 44257), (117, 44236), (148, 44143), (152, 44134),

Gene: JoshKayV\_75 Start: 45230, Stop: 44811, Start Num: 55

Candidate Starts for JoshKayV\_75:

(Start: 55 @45230 has 127 MA's), (Start: 72 @45167 has 2 MA's), (73, 45149), (93, 45044), (96, 45023), (102, 44996), (111, 44960), (117, 44939), (118, 44936), (121, 44927), (133, 44888), (136, 44882), (144, 44858), (147, 44849),

Gene: Journey13\_64 Start: 41400, Stop: 40975, Start Num: 55



Candidate Starts for Journey13\_64:

(38, 41442), (Start: 41 @41430 has 1 MA's), (Start: 55 @41400 has 127 MA's), (59, 41382), (67, 41361), (86, 41256), (108, 41127), (118, 41094), (121, 41085), (136, 41046), (142, 41028), (163, 40980),

Gene: Jsquared\_78 Start: 44346, Stop: 43909, Start Num: 55

Candidate Starts for Jsquared\_78:

(37, 44388), (Start: 55 @44346 has 127 MA's), (96, 44136), (108, 44076), (118, 44043), (121, 44034), (136, 43995), (164, 43923),

Gene: Kalpine\_74 Start: 45137, Stop: 44724, Start Num: 55

Candidate Starts for Kalpine\_74:

(Start: 55 @45137 has 127 MA's), (71, 45077), (Start: 72 @45074 has 2 MA's), (77, 45035), (95, 44939), (117, 44846), (121, 44834), (144, 44771), (159, 44738),

Gene: KatherineG\_83 Start: 45215, Stop: 44817, Start Num: 55

Candidate Starts for KatherineG\_83:

(Start: 55 @45215 has 127 MA's), (62, 45185), (77, 45107), (93, 45032), (95, 45020), (105, 44969), (110, 44951), (111, 44948), (139, 44873), (157, 44825),

Gene: Kazan\_78 Start: 43634, Stop: 43233, Start Num: 47

Candidate Starts for Kazan\_78:

(Start: 47 @43634 has 14 MA's), (Start: 55 @43619 has 127 MA's), (Start: 61 @43595 has 3 MA's), (69, 43565), (Start: 72 @43556 has 2 MA's), (73, 43538), (76, 43523), (102, 43388), (110, 43355), (111, 43352), (118, 43328), (121, 43319), (136, 43286), (146, 43256), (147, 43253),

Gene: Kerberos\_77 Start: 45276, Stop: 44857, Start Num: 55

Candidate Starts for Kerberos\_77:

(Start: 55 @45276 has 127 MA's), (69, 45222), (78, 45168), (93, 45093), (102, 45045), (110, 45012), (111, 45009), (117, 44988), (131, 44946), (136, 44934), (143, 44913), (152, 44889), (160, 44871),

Gene: Keziacharles14\_73 Start: 44835, Stop: 44419, Start Num: 54

Candidate Starts for Keziacharles14\_73:

(Start: 54 @44835 has 29 MA's), (Start: 61 @44811 has 3 MA's), (Start: 72 @44772 has 2 MA's), (73, 44754), (90, 44667), (93, 44646), (110, 44565), (111, 44562), (117, 44541), (123, 44520),

Gene: KingCyrus\_74 Start: 46215, Stop: 45796, Start Num: 55

Candidate Starts for KingCyrus\_74:

(31, 46263), (Start: 55 @46215 has 127 MA's), (65, 46179), (Start: 72 @46152 has 2 MA's), (73, 46134), (93, 46029), (111, 45945), (117, 45924), (118, 45921), (121, 45912), (133, 45873), (139, 45858), (144, 45843), (150, 45825), (152, 45822), (157, 45810),

Gene: Kinmap\_78 Start: 43580, Stop: 43182, Start Num: 56

Candidate Starts for Kinmap\_78:

(56, 43580), (58, 43565), (73, 43499), (87, 43436), (110, 43316), (111, 43313), (113, 43304), (121, 43280), (156, 43187),

Gene: Kipper29\_77 Start: 43647, Stop: 43246, Start Num: 47

Candidate Starts for Kipper29\_77:

(Start: 47 @43647 has 14 MA's), (Start: 55 @43632 has 127 MA's), (Start: 61 @43608 has 3 MA's), (69, 43578), (Start: 72 @43569 has 2 MA's), (73, 43551), (76, 43536), (102, 43401), (110, 43368), (111, 43365), (118, 43341), (121, 43332), (136, 43299), (146, 43269), (147, 43266),

Gene: Koduck\_76 Start: 44123, Stop: 43686, Start Num: 55

Candidate Starts for Koduck\_76:

(Start: 55 @44123 has 127 MA's), (95, 43922), (96, 43913), (108, 43853), (117, 43823), (118, 43820), (121, 43811), (136, 43772), (164, 43700),

Gene: Koko\_78 Start: 44166, Stop: 43780, Start Num: 55

Candidate Starts for Koko\_78:

(Start: 43 @44193 has 7 MA's), (Start: 55 @44166 has 127 MA's), (70, 44109), (76, 44070), (96, 43962), (97, 43959), (100, 43941), (110, 43902), (111, 43899), (118, 43875), (124, 43857), (132, 43842), (146, 43803),

Gene: L5\_70 Start: 44276, Stop: 43839, Start Num: 55

Candidate Starts for L5\_70:

(Start: 55 @44276 has 127 MA's), (95, 44075), (96, 44066), (108, 44006), (117, 43976), (118, 43973), (121, 43964), (136, 43925), (164, 43853),

Gene: LadyBird\_78 Start: 45434, Stop: 45021, Start Num: 55

Candidate Starts for LadyBird\_78:

(20, 45533), (33, 45476), (46, 45446), (Start: 55 @45434 has 127 MA's), (71, 45374), (Start: 72 @45371 has 2 MA's), (73, 45353), (91, 45266), (117, 45143), (118, 45140), (143, 45071), (156, 45038),

Gene: Landor\_73 Start: 46033, Stop: 45611, Start Num: 45

Candidate Starts for Landor\_73:

(Start: 45 @46033 has 4 MA's), (Start: 55 @46012 has 127 MA's), (64, 45982), (70, 45955), (73, 45931), (78, 45904), (86, 45871), (93, 45829), (111, 45742), (119, 45715), (131, 45679), (139, 45658), (151, 45625), (153, 45622),

Gene: Larenn\_71 Start: 44473, Stop: 44057, Start Num: 55

Candidate Starts for Larenn\_71:

(29, 44524), (Start: 55 @44473 has 127 MA's), (69, 44419), (Start: 72 @44410 has 2 MA's), (73, 44392), (83, 44338), (99, 44254), (102, 44239), (111, 44203), (117, 44182), (121, 44170), (136, 44131), (143, 44110), (152, 44086),

Gene: LastResort\_81 Start: 45146, Stop: 44748, Start Num: 55

Candidate Starts for LastResort\_81:

(Start: 55 @45146 has 127 MA's), (62, 45116), (77, 45038), (93, 44963), (95, 44951), (110, 44882), (111, 44879), (139, 44804), (157, 44756),

Gene: Leogania\_73 Start: 45163, Stop: 44750, Start Num: 55

Candidate Starts for Leogania\_73:

(Start: 55 @45163 has 127 MA's), (65, 45127), (90, 44998), (93, 44977), (111, 44893), (117, 44872), (121, 44860), (128, 44842), (130, 44836), (136, 44821), (156, 44767), (159, 44764),

Gene: Leviathan\_76 Start: 45265, Stop: 44846, Start Num: 55

Candidate Starts for Leviathan\_76:

(31, 45313), (40, 45295), (46, 45280), (Start: 55 @45265 has 127 MA's), (Start: 72 @45202 has 2 MA's), (93, 45079), (96, 45058), (111, 44995), (121, 44962), (136, 44917), (139, 44908), (144, 44893), (150, 44875), (152, 44872), (157, 44860),

Gene: LilTurb\_75 Start: 45079, Stop: 44660, Start Num: 55

Candidate Starts for LilTurb\_75:

(31, 45127), (40, 45109), (46, 45094), (Start: 55 @45079 has 127 MA's), (Start: 72 @45016 has 2 MA's), (93, 44893), (96, 44872), (111, 44809), (121, 44776), (136, 44731), (139, 44722), (144, 44707), (150, 44689), (152, 44686), (157, 44674),

Gene: Lilbunny\_76 Start: 43435, Stop: 43022, Start Num: 43

Candidate Starts for Lilbunny\_76:

(Start: 43 @43435 has 7 MA's), (Start: 55 @43408 has 127 MA's), (70, 43351), (76, 43312), (96, 43204), (97, 43201), (100, 43183), (110, 43144), (111, 43141), (118, 43117), (124, 43099), (132, 43084), (146, 43045),

Gene: Lilleskat\_73 Start: 44169, Stop: 43750, Start Num: 54

Candidate Starts for Lilleskat\_73:

(Start: 54 @44169 has 29 MA's), (Start: 61 @44145 has 3 MA's), (71, 44109), (79, 44058), (90, 44004), (93, 43983), (96, 43962), (100, 43941), (102, 43935), (110, 43902), (111, 43899), (117, 43878), (118, 43875), (142, 43809), (143, 43806), (159, 43767), (160, 43764), (162, 43761),

Gene: Lokk\_68 Start: 43280, Stop: 42864, Start Num: 55

Candidate Starts for Lokk\_68:

(Start: 48 @43292 has 3 MA's), (Start: 55 @43280 has 127 MA's), (Start: 72 @43217 has 2 MA's), (83, 43145), (102, 43046), (107, 43013), (111, 43010), (117, 42989), (121, 42977), (136, 42935), (143, 42914), (147, 42902), (156, 42881), (157, 42878), (159, 42875),

Gene: LoneWolf\_77 Start: 44460, Stop: 44041, Start Num: 54

Candidate Starts for LoneWolf\_77:

(2, 44889), (5, 44832), (6, 44763), (10, 44706), (11, 44703), (Start: 54 @44460 has 29 MA's), (Start: 61 @44436 has 3 MA's), (70, 44403), (73, 44379), (89, 44295), (90, 44292), (93, 44271), (110, 44190), (111, 44187), (117, 44166), (118, 44163), (123, 44145), (154, 44067), (159, 44055),

Gene: Looper\_82 Start: 45058, Stop: 44660, Start Num: 55

Candidate Starts for Looper\_82:

(Start: 55 @45058 has 127 MA's), (62, 45028), (77, 44950), (93, 44875), (95, 44863), (105, 44812), (110, 44794), (111, 44791), (139, 44716), (157, 44668),

Gene: Loser\_76 Start: 45354, Stop: 44947, Start Num: 54

Candidate Starts for Loser\_76:

(23, 45441), (Start: 54 @45354 has 29 MA's), (Start: 61 @45330 has 3 MA's), (67, 45315), (91, 45186), (93, 45168), (95, 45156), (118, 45060), (149, 44979),

Gene: Luchador\_77 Start: 45554, Stop: 45159, Start Num: 54

Candidate Starts for Luchador\_77:

(Start: 54 @45554 has 29 MA's), (Start: 61 @45530 has 3 MA's), (87, 45410), (88, 45407), (91, 45389), (93, 45371), (95, 45359), (101, 45323), (110, 45290), (118, 45263),

Gene: Lucivia\_78 Start: 44809, Stop: 44372, Start Num: 53

Candidate Starts for Lucivia\_78:

(Start: 47 @44821 has 14 MA's), (Start: 53 @44809 has 23 MA's), (Start: 61 @44785 has 3 MA's), (Start: 72 @44746 has 2 MA's), (73, 44728), (87, 44659), (93, 44620), (98, 44593), (100, 44578), (103, 44569), (110, 44539), (111, 44536), (117, 44515), (148, 44422), (152, 44413),

Gene: Lucyedi\_79 Start: 45552, Stop: 45145, Start Num: 54

Candidate Starts for Lucyedi\_79:

(Start: 54 @45552 has 29 MA's), (Start: 61 @45528 has 3 MA's), (65, 45516), (73, 45471), (88, 45402), (90, 45387), (93, 45366), (97, 45342), (110, 45285), (111, 45282), (121, 45249), (155, 45159), (156,

45156),

Gene: MaCh\_77 Start: 44773, Stop: 44336, Start Num: 53

Candidate Starts for MaCh\_77:

(Start: 47 @44785 has 14 MA's), (Start: 53 @44773 has 23 MA's), (Start: 61 @44749 has 3 MA's), (Start: 72 @44710 has 2 MA's), (73, 44692), (85, 44629), (87, 44623), (93, 44584), (98, 44557), (100, 44542), (103, 44533), (110, 44503), (111, 44500), (117, 44479), (148, 44386), (152, 44377),

Gene: Mabel\_77 Start: 44774, Stop: 44337, Start Num: 53

Candidate Starts for Mabel\_77:

(Start: 47 @44786 has 14 MA's), (Start: 53 @44774 has 23 MA's), (Start: 61 @44750 has 3 MA's), (Start: 72 @44711 has 2 MA's), (73, 44693), (87, 44624), (93, 44585), (98, 44558), (100, 44543), (103, 44534), (110, 44504), (111, 44501), (117, 44480), (148, 44387), (152, 44378),

Gene: MajorMajor\_76 Start: 44213, Stop: 43776, Start Num: 55

Candidate Starts for MajorMajor\_76:

(19, 44315), (21, 44309), (Start: 55 @44213 has 127 MA's), (96, 44003), (108, 43943), (117, 43913), (118, 43910), (121, 43901), (136, 43862), (164, 43790),

Gene: Malec\_72 Start: 45040, Stop: 44624, Start Num: 55

Candidate Starts for Malec\_72:

(29, 45091), (Start: 55 @45040 has 127 MA's), (69, 44986), (Start: 72 @44977 has 2 MA's), (73, 44959), (83, 44905), (99, 44821), (102, 44806), (111, 44770), (117, 44749), (121, 44737), (136, 44698), (143, 44677), (152, 44653),

Gene: Maminiaina\_76 Start: 44374, Stop: 43958, Start Num: 54

Candidate Starts for Maminiaina\_76:

(Start: 44 @44398 has 10 MA's), (Start: 54 @44374 has 29 MA's), (Start: 61 @44350 has 3 MA's), (70, 44317), (90, 44206), (93, 44185), (110, 44104), (111, 44101), (117, 44080), (118, 44077), (123, 44059), (159, 43969),

Gene: McFly\_78 Start: 44248, Stop: 43862, Start Num: 55

Candidate Starts for McFly\_78:

(Start: 47 @44263 has 14 MA's), (Start: 55 @44248 has 127 MA's), (Start: 61 @44224 has 3 MA's), (69, 44194), (Start: 72 @44185 has 2 MA's), (73, 44167), (76, 44152), (102, 44017), (110, 43984), (111, 43981), (118, 43957), (121, 43948), (136, 43915), (146, 43885), (147, 43882),

Gene: MiculUcigas\_75 Start: 44683, Stop: 44264, Start Num: 55

Candidate Starts for MiculUcigas\_75:

(19, 44782), (21, 44776), (31, 44725), (Start: 55 @44683 has 127 MA's), (Start: 72 @44620 has 2 MA's), (73, 44602), (91, 44515), (96, 44476), (102, 44449), (111, 44413), (117, 44392), (121, 44380), (144, 44314), (150, 44296), (157, 44281),

Gene: Miko\_68 Start: 44058, Stop: 43642, Start Num: 55

Candidate Starts for Miko\_68:

(Start: 48 @44070 has 3 MA's), (Start: 55 @44058 has 127 MA's), (Start: 72 @43995 has 2 MA's), (83, 43923), (102, 43824), (107, 43791), (111, 43788), (117, 43767), (121, 43755), (136, 43713), (143, 43692), (147, 43680), (156, 43659), (157, 43656), (159, 43653),

Gene: MinecraftSteve\_83 Start: 45039, Stop: 44641, Start Num: 55

Candidate Starts for MinecraftSteve\_83:

(Start: 55 @45039 has 127 MA's), (62, 45009), (77, 44931), (93, 44856), (95, 44844), (110, 44775), (111, 44772), (139, 44697), (157, 44649),

Gene: MissWhite\_73 Start: 43236, Stop: 42826, Start Num: 61

Candidate Starts for MissWhite\_73:

(Start: 55 @43263 has 127 MA's), (Start: 61 @43236 has 3 MA's), (80, 43137), (88, 43107), (93, 43071), (108, 42990), (121, 42948), (133, 42915), (136, 42909), (139, 42900), (142, 42891), (164, 42840),

Gene: Mulciber\_75 Start: 44315, Stop: 43878, Start Num: 53

Candidate Starts for Mulciber\_75:

(Start: 47 @44327 has 14 MA's), (Start: 53 @44315 has 23 MA's), (Start: 61 @44291 has 3 MA's), (Start: 72 @44252 has 2 MA's), (73, 44234), (87, 44165), (93, 44126), (98, 44099), (100, 44084), (103, 44075), (110, 44045), (111, 44042), (117, 44021), (148, 43928), (152, 43919),

Gene: Munch\_77 Start: 44778, Stop: 44341, Start Num: 53

Candidate Starts for Munch\_77:

(Start: 47 @44790 has 14 MA's), (Start: 53 @44778 has 23 MA's), (Start: 61 @44754 has 3 MA's), (Start: 72 @44715 has 2 MA's), (73, 44697), (87, 44628), (93, 44589), (98, 44562), (100, 44547), (103, 44538), (110, 44508), (111, 44505), (117, 44484), (148, 44391), (152, 44382),

Gene: Myxus\_76 Start: 44236, Stop: 43793, Start Num: 44

Candidate Starts for Myxus\_76:

(10, 44461), (Start: 44 @44236 has 10 MA's), (Start: 54 @44212 has 29 MA's), (Start: 61 @44188 has 3 MA's), (71, 44152), (79, 44101), (90, 44047), (93, 44026), (96, 44005), (100, 43984), (102, 43978), (110, 43945), (111, 43942), (117, 43921), (118, 43918), (142, 43852), (143, 43849), (159, 43810), (160, 43807), (162, 43804),

Gene: NaSiaTalie\_75 Start: 44777, Stop: 44358, Start Num: 55

Candidate Starts for NaSiaTalie\_75:

(19, 44876), (21, 44870), (31, 44819), (Start: 55 @44777 has 127 MA's), (Start: 72 @44714 has 2 MA's), (73, 44696), (91, 44609), (96, 44570), (102, 44543), (111, 44507), (117, 44486), (118, 44483), (121, 44474), (144, 44408), (150, 44390), (157, 44375),

Gene: Naji\_77 Start: 45277, Stop: 44858, Start Num: 55

Candidate Starts for Naji\_77:

(Start: 55 @45277 has 127 MA's), (78, 45169), (93, 45094), (102, 45046), (110, 45013), (111, 45010), (117, 44989), (131, 44947), (143, 44914), (147, 44902), (152, 44890), (160, 44872),

Gene: Nebulosus\_80 Start: 44703, Stop: 44305, Start Num: 55

Candidate Starts for Nebulosus\_80:

(Start: 55 @44703 has 127 MA's), (62, 44673), (77, 44595), (93, 44520), (95, 44508), (110, 44439), (111, 44436), (139, 44361), (157, 44313),

Gene: Nedarya\_78 Start: 44930, Stop: 44535, Start Num: 55

Candidate Starts for Nedarya\_78:

(Start: 55 @44930 has 127 MA's), (62, 44903), (70, 44870), (87, 44786), (90, 44768), (91, 44765), (95, 44735), (110, 44666), (111, 44663), (136, 44597), (157, 44543),

Gene: Neeharika16\_76 Start: 43730, Stop: 43329, Start Num: 47

Candidate Starts for Neeharika16\_76:

(Start: 47 @43730 has 14 MA's), (Start: 55 @43715 has 127 MA's), (Start: 61 @43691 has 3 MA's), (69, 43661), (Start: 72 @43652 has 2 MA's), (73, 43634), (76, 43619), (102, 43484), (110, 43451), (111, 43448), (118, 43424), (121, 43415), (136, 43382), (146, 43352), (147, 43349),

Gene: Newrala\_76 Start: 44069, Stop: 43668, Start Num: 47

Candidate Starts for Newrala\_76:

(Start: 47 @44069 has 14 MA's), (Start: 55 @44054 has 127 MA's), (Start: 61 @44030 has 3 MA's), (69, 44000), (Start: 72 @43991 has 2 MA's), (73, 43973), (76, 43958), (102, 43823), (110, 43790), (111, 43787), (118, 43763), (121, 43754), (136, 43721), (146, 43691), (147, 43688),

Gene: NicoleTera\_72 Start: 44794, Stop: 44381, Start Num: 55

Candidate Starts for NicoleTera\_72:

(Start: 55 @44794 has 127 MA's), (88, 44644), (91, 44626), (93, 44608), (117, 44503), (121, 44491), (136, 44452), (159, 44395),

Gene: NothingSpecial\_70 Start: 44782, Stop: 44381, Start Num: 52

Candidate Starts for NothingSpecial\_70:

(Start: 52 @44782 has 2 MA's), (Start: 55 @44779 has 127 MA's), (78, 44671), (93, 44596), (96, 44575), (100, 44554), (102, 44548), (103, 44545), (110, 44515), (111, 44512), (117, 44491), (118, 44488), (139, 44428), (142, 44419),

Gene: Odin\_76 Start: 44758, Stop: 44339, Start Num: 55

Candidate Starts for Odin\_76:

(24, 44836), (28, 44809), (30, 44806), (Start: 55 @44758 has 127 MA's), (80, 44638), (83, 44623), (85, 44617), (90, 44593), (96, 44551), (108, 44491), (109, 44488), (118, 44458), (121, 44449), (142, 44392), (157, 44353),

Gene: Onglai\_74 Start: 42392, Stop: 41997, Start Num: 61

Candidate Starts for Onglai\_74:

(Start: 54 @42416 has 29 MA's), (Start: 61 @42392 has 3 MA's), (71, 42356), (79, 42305), (90, 42251), (93, 42230), (96, 42209), (100, 42188), (102, 42182), (110, 42149), (111, 42146), (117, 42125), (118, 42122), (142, 42056), (143, 42053), (159, 42014), (160, 42011), (162, 42008),

Gene: Oofda\_82 Start: 44994, Stop: 44596, Start Num: 55

Candidate Starts for Oofda\_82:

(Start: 55 @44994 has 127 MA's), (62, 44964), (77, 44886), (93, 44811), (95, 44799), (110, 44730), (111, 44727), (139, 44652), (157, 44604),

Gene: Orange\_76 Start: 44327, Stop: 43890, Start Num: 53

Candidate Starts for Orange\_76:

(Start: 47 @44339 has 14 MA's), (Start: 53 @44327 has 23 MA's), (Start: 61 @44303 has 3 MA's), (Start: 72 @44264 has 2 MA's), (73, 44246), (87, 44177), (93, 44138), (98, 44111), (100, 44096), (103, 44087), (110, 44057), (111, 44054), (117, 44033), (148, 43940), (152, 43931),

Gene: PackMan\_75 Start: 44087, Stop: 43668, Start Num: 54

Candidate Starts for PackMan\_75:

(10, 44336), (Start: 44 @44111 has 10 MA's), (Start: 54 @44087 has 29 MA's), (Start: 61 @44063 has 3 MA's), (71, 44027), (79, 43976), (90, 43922), (93, 43901), (96, 43880), (100, 43859), (102, 43853), (110, 43820), (111, 43817), (117, 43796), (118, 43793), (142, 43727), (143, 43724), (159, 43685), (160, 43682), (162, 43679),

Gene: PainterBoy\_78 Start: 45261, Stop: 44854, Start Num: 54

Candidate Starts for PainterBoy\_78:

(Start: 54 @45261 has 29 MA's), (Start: 61 @45237 has 3 MA's), (65, 45225), (73, 45180), (88, 45111), (90, 45096), (93, 45075), (97, 45051), (110, 44994), (111, 44991), (121, 44958), (155, 44868), (156, 44865),

Gene: Petersenfast\_71 Start: 43209, Stop: 42772, Start Num: 53

Candidate Starts for Petersenfast\_71:

(Start: 47 @43221 has 14 MA's), (Start: 53 @43209 has 23 MA's), (Start: 61 @43185 has 3 MA's), (Start: 72 @43146 has 2 MA's), (87, 43059), (93, 43020), (98, 42993), (100, 42978), (103, 42969), (110, 42939), (111, 42936), (117, 42915), (148, 42822), (152, 42813),

Gene: Ph8s\_79 Start: 44796, Stop: 44377, Start Num: 55

Candidate Starts for Ph8s\_79:

(7, 45069), (8, 45066), (20, 44889), (30, 44844), (Start: 55 @44796 has 127 MA's), (Start: 72 @44733 has 2 MA's), (73, 44715), (74, 44712), (83, 44661), (93, 44610), (102, 44562), (108, 44529), (121, 44487), (142, 44430), (157, 44391),

Gene: Phaded\_70 Start: 45992, Stop: 45570, Start Num: 45

Candidate Starts for Phaded\_70:

(Start: 45 @45992 has 4 MA's), (Start: 55 @45971 has 127 MA's), (64, 45941), (70, 45914), (73, 45890), (78, 45863), (86, 45830), (93, 45788), (111, 45701), (119, 45674), (131, 45638), (139, 45617), (151, 45584), (153, 45581),

Gene: Phaeder\_76 Start: 44087, Stop: 43668, Start Num: 54

Candidate Starts for Phaeder\_76:

(10, 44336), (Start: 44 @44111 has 10 MA's), (Start: 54 @44087 has 29 MA's), (Start: 61 @44063 has 3 MA's), (71, 44027), (79, 43976), (90, 43922), (93, 43901), (96, 43880), (100, 43859), (102, 43853), (110, 43820), (111, 43817), (117, 43796), (118, 43793), (142, 43727), (143, 43724), (159, 43685), (160, 43682), (162, 43679),

Gene: Pharaoh\_70 Start: 44179, Stop: 43772, Start Num: 55

Candidate Starts for Pharaoh\_70:

(42, 44209), (Start: 55 @44179 has 127 MA's), (Start: 61 @44155 has 3 MA's), (65, 44143), (70, 44122), (84, 44041), (93, 43996), (102, 43942), (111, 43906), (114, 43894), (119, 43879), (125, 43864), (158, 43783),

Gene: Phonnegut\_76 Start: 44157, Stop: 43738, Start Num: 54

Candidate Starts for Phonnegut\_76:

(Start: 54 @44157 has 29 MA's), (Start: 61 @44133 has 3 MA's), (71, 44097), (79, 44046), (90, 43992), (93, 43971), (96, 43950), (100, 43929), (102, 43923), (110, 43890), (111, 43887), (117, 43866), (118, 43863), (142, 43797), (143, 43794), (159, 43755), (160, 43752), (162, 43749),

Gene: Pioneer\_76 Start: 44133, Stop: 43738, Start Num: 61

Candidate Starts for Pioneer\_76:

(Start: 54 @44157 has 29 MA's), (Start: 61 @44133 has 3 MA's), (71, 44097), (79, 44046), (90, 43992), (93, 43971), (96, 43950), (100, 43929), (102, 43923), (110, 43890), (111, 43887), (117, 43866), (118, 43863), (142, 43797), (143, 43794), (159, 43755), (160, 43752), (162, 43749),

Gene: Piro94\_74 Start: 44742, Stop: 44326, Start Num: 55

Candidate Starts for Piro94\_74:

(31, 44793), (Start: 48 @44754 has 3 MA's), (Start: 55 @44742 has 127 MA's), (Start: 72 @44679 has 2 MA's), (73, 44661), (93, 44556), (96, 44535), (111, 44472), (117, 44451), (118, 44448), (121, 44439), (144, 44373), (150, 44355), (157, 44340),

Gene: Pmask\_76 Start: 44267, Stop: 43866, Start Num: 47

Candidate Starts for Pmask\_76:

(Start: 47 @44267 has 14 MA's), (Start: 55 @44252 has 127 MA's), (Start: 61 @44228 has 3 MA's), (69, 44198), (Start: 72 @44189 has 2 MA's), (73, 44171), (76, 44156), (102, 44021), (110, 43988),

(111, 43985), (118, 43961), (121, 43952), (136, 43919), (146, 43889), (147, 43886),

Gene: Pomar16\_77 Start: 45317, Stop: 44898, Start Num: 55

Candidate Starts for Pomar16\_77:

(Start: 55 @45317 has 127 MA's), (69, 45263), (78, 45209), (93, 45134), (102, 45086), (110, 45053), (111, 45050), (117, 45029), (131, 44987), (136, 44975), (143, 44954), (147, 44942), (152, 44930), (160, 44912),

Gene: Power\_74 Start: 45119, Stop: 44700, Start Num: 55

Candidate Starts for Power\_74:

(39, 45158), (Start: 48 @45131 has 3 MA's), (Start: 55 @45119 has 127 MA's), (65, 45083), (68, 45068), (Start: 72 @45056 has 2 MA's), (73, 45038), (93, 44933), (95, 44921), (96, 44912), (117, 44828), (121, 44816), (136, 44771), (144, 44747), (152, 44726), (157, 44714),

Gene: Priamo\_78 Start: 43907, Stop: 43521, Start Num: 55

Candidate Starts for Priamo\_78:

(34, 43952), (Start: 43 @43931 has 7 MA's), (Start: 55 @43907 has 127 MA's), (76, 43811), (82, 43781), (96, 43703), (100, 43682), (110, 43643), (111, 43640), (118, 43616), (142, 43556),

Gene: Priya\_74 Start: 43884, Stop: 43465, Start Num: 54

Candidate Starts for Priya\_74:

(Start: 44 @43908 has 10 MA's), (Start: 54 @43884 has 29 MA's), (Start: 61 @43860 has 3 MA's), (71, 43824), (79, 43773), (90, 43719), (93, 43698), (96, 43677), (100, 43656), (102, 43650), (110, 43617), (111, 43614), (117, 43593), (118, 43590), (142, 43524), (143, 43521), (160, 43479), (162, 43476),

Gene: Pukovnik\_71 Start: 45610, Stop: 45206, Start Num: 52

Candidate Starts for Pukovnik\_71:

(Start: 52 @45610 has 2 MA's), (Start: 55 @45607 has 127 MA's), (78, 45499), (93, 45424), (100, 45382), (102, 45376), (110, 45343), (111, 45340), (117, 45319), (118, 45316), (139, 45256), (142, 45247), (147, 45232),

Gene: Qobbit\_74 Start: 43870, Stop: 43427, Start Num: 44

Candidate Starts for Qobbit\_74:

(Start: 44 @43870 has 10 MA's), (Start: 54 @43846 has 29 MA's), (Start: 61 @43822 has 3 MA's), (71, 43786), (79, 43735), (90, 43681), (93, 43660), (96, 43639), (100, 43618), (102, 43612), (110, 43579), (111, 43576), (117, 43555), (118, 43552), (142, 43486), (143, 43483), (160, 43441), (162, 43438),

Gene: QueenB2\_72 Start: 44402, Stop: 43983, Start Num: 55

Candidate Starts for QueenB2\_72:

(33, 44450), (Start: 55 @44402 has 127 MA's), (Start: 72 @44339 has 2 MA's), (73, 44321), (93, 44216), (111, 44132), (118, 44108), (121, 44099), (136, 44054), (144, 44030), (147, 44021), (157, 43997),

Gene: QueenBeesly\_75 Start: 45076, Stop: 44657, Start Num: 55

Candidate Starts for QueenBeesly\_75:

(39, 45115), (Start: 48 @45088 has 3 MA's), (Start: 55 @45076 has 127 MA's), (68, 45025), (Start: 72 @45013 has 2 MA's), (73, 44995), (93, 44890), (95, 44878), (96, 44869), (117, 44785), (121, 44773), (136, 44728), (144, 44704), (152, 44683), (157, 44671),

Gene: Quokka\_76 Start: 44213, Stop: 43776, Start Num: 55

Candidate Starts for Quokka\_76:

(19, 44315), (21, 44309), (Start: 55 @44213 has 127 MA's), (96, 44003), (108, 43943), (117, 43913), (118, 43910), (121, 43901), (136, 43862), (164, 43790),



Gene: Rachaly\_70 Start: 44203, Stop: 43787, Start Num: 55

Candidate Starts for Rachaly\_70:

(Start: 48 @44215 has 3 MA's), (Start: 55 @44203 has 127 MA's), (Start: 72 @44140 has 2 MA's), (83, 44068), (102, 43969), (107, 43936), (111, 43933), (117, 43912), (121, 43900), (136, 43858), (143, 43837), (147, 43825), (156, 43804), (157, 43801), (159, 43798),

Gene: Rahalelujah\_76 Start: 44020, Stop: 43601, Start Num: 54

Candidate Starts for Rahalelujah\_76:

(Start: 54 @44020 has 29 MA's), (Start: 61 @43996 has 3 MA's), (73, 43939), (90, 43852), (93, 43831), (102, 43783), (110, 43750), (111, 43747), (118, 43723), (123, 43705), (141, 43660),

Gene: ReMo\_81 Start: 45143, Stop: 44745, Start Num: 55

Candidate Starts for ReMo\_81:

(Start: 55 @45143 has 127 MA's), (62, 45113), (77, 45035), (93, 44960), (95, 44948), (110, 44879), (111, 44876), (139, 44801), (157, 44753),

Gene: RedRock\_73 Start: 45123, Stop: 44716, Start Num: 54

Candidate Starts for RedRock\_73:

(35, 45162), (Start: 54 @45123 has 29 MA's), (Start: 61 @45099 has 3 MA's), (77, 45021), (91, 44955), (93, 44937), (117, 44832),

Gene: Refuge\_72 Start: 45324, Stop: 44920, Start Num: 50

Candidate Starts for Refuge\_72:

(Start: 50 @45324 has 2 MA's), (83, 45180), (86, 45171), (105, 45066), (110, 45048), (115, 45030), (119, 45018), (142, 44955),

Gene: Remus\_83 Start: 45073, Stop: 44675, Start Num: 55

Candidate Starts for Remus\_83:

(Start: 55 @45073 has 127 MA's), (62, 45043), (77, 44965), (93, 44890), (95, 44878), (110, 44809), (111, 44806), (139, 44731), (157, 44683),

Gene: Retro23\_75 Start: 44806, Stop: 44387, Start Num: 55

Candidate Starts for Retro23\_75:

(14, 44974), (16, 44956), (17, 44953), (33, 44854), (Start: 55 @44806 has 127 MA's), (Start: 72 @44743 has 2 MA's), (73, 44725), (93, 44620), (111, 44536), (117, 44515), (121, 44503), (136, 44458), (139, 44449), (144, 44434), (147, 44425), (157, 44401),

Gene: Rifter\_77 Start: 42938, Stop: 42552, Start Num: 55

Candidate Starts for Rifter\_77:

(Start: 43 @42965 has 7 MA's), (Start: 55 @42938 has 127 MA's), (70, 42881), (76, 42842), (96, 42734), (97, 42731), (100, 42713), (110, 42674), (111, 42671), (118, 42647), (124, 42629), (132, 42614), (146, 42575),

Gene: Roksolana\_77 Start: 43672, Stop: 43286, Start Num: 55

Candidate Starts for Roksolana\_77:

(Start: 43 @43699 has 7 MA's), (Start: 55 @43672 has 127 MA's), (70, 43615), (76, 43576), (96, 43468), (97, 43465), (100, 43447), (110, 43408), (111, 43405), (118, 43381), (124, 43363), (132, 43348), (146, 43309),

Gene: Rosalind\_81 Start: 44967, Stop: 44569, Start Num: 55

Candidate Starts for Rosalind\_81:

(Start: 55 @44967 has 127 MA's), (62, 44937), (77, 44859), (93, 44784), (95, 44772), (110, 44703), (111, 44700), (139, 44625), (157, 44577),

Gene: RyeScarlet\_77 Start: 44108, Stop: 43713, Start Num: 61

Candidate Starts for RyeScarlet\_77:

(Start: 54 @44132 has 29 MA's), (Start: 61 @44108 has 3 MA's), (71, 44072), (79, 44021), (90, 43967), (93, 43946), (96, 43925), (100, 43904), (102, 43898), (110, 43865), (111, 43862), (117, 43841), (118, 43838), (142, 43772), (143, 43769), (159, 43730), (160, 43727), (162, 43724),

Gene: Sachima\_72 Start: 44089, Stop: 43694, Start Num: 61

Candidate Starts for Sachima\_72:

(Start: 54 @44113 has 29 MA's), (Start: 61 @44089 has 3 MA's), (71, 44053), (79, 44002), (90, 43948), (93, 43927), (96, 43906), (100, 43885), (102, 43879), (110, 43846), (111, 43843), (117, 43822), (118, 43819), (142, 43753), (143, 43750), (159, 43711), (160, 43708), (162, 43705),

Gene: Salz\_72 Start: 43124, Stop: 42687, Start Num: 53

Candidate Starts for Salz\_72:

(Start: 47 @43136 has 14 MA's), (Start: 53 @43124 has 23 MA's), (Start: 61 @43100 has 3 MA's), (Start: 72 @43061 has 2 MA's), (87, 42974), (93, 42935), (98, 42908), (100, 42893), (103, 42884), (110, 42854), (111, 42851), (117, 42830), (148, 42737), (152, 42728),

Gene: Scherzo\_75 Start: 44403, Stop: 43957, Start Num: 44

Candidate Starts for Scherzo\_75:

(Start: 44 @44403 has 10 MA's), (Start: 54 @44379 has 29 MA's), (Start: 61 @44355 has 3 MA's), (71, 44319), (79, 44268), (90, 44214), (93, 44193), (96, 44172), (100, 44151), (102, 44145), (110, 44112), (111, 44109), (117, 44088), (118, 44085), (142, 44019), (143, 44016), (159, 43977),

Gene: SemperFi\_75 Start: 44964, Stop: 44545, Start Num: 55

Candidate Starts for SemperFi\_75:

(39, 45003), (Start: 48 @44976 has 3 MA's), (Start: 55 @44964 has 127 MA's), (68, 44913), (Start: 72 @44901 has 2 MA's), (73, 44883), (93, 44778), (95, 44766), (96, 44757), (117, 44673), (121, 44661), (136, 44616), (144, 44592), (152, 44571), (157, 44559),

Gene: Serenity\_78 Start: 44410, Stop: 43973, Start Num: 55

Candidate Starts for Serenity\_78:

(37, 44452), (Start: 55 @44410 has 127 MA's), (Start: 61 @44386 has 3 MA's), (96, 44200), (108, 44140), (118, 44107), (121, 44098), (136, 44059), (164, 43987),

Gene: Sham4\_73 Start: 43208, Stop: 42771, Start Num: 53

Candidate Starts for Sham4\_73:

(Start: 47 @43220 has 14 MA's), (Start: 53 @43208 has 23 MA's), (Start: 61 @43184 has 3 MA's), (Start: 72 @43145 has 2 MA's), (87, 43058), (93, 43019), (98, 42992), (100, 42977), (103, 42968), (110, 42938), (111, 42935), (117, 42914), (148, 42821), (152, 42812),

Gene: SheaKeira\_70 Start: 43202, Stop: 42783, Start Num: 54

Candidate Starts for SheaKeira\_70:

(Start: 54 @43202 has 29 MA's), (Start: 61 @43178 has 3 MA's), (Start: 72 @43139 has 2 MA's), (89, 43037), (90, 43034), (93, 43013), (96, 42992), (110, 42932), (111, 42929), (123, 42887),

Gene: Sknot\_75 Start: 44777, Stop: 44358, Start Num: 55

Candidate Starts for Sknot\_75:

(19, 44876), (21, 44870), (31, 44819), (Start: 55 @44777 has 127 MA's), (Start: 72 @44714 has 2 MA's), (73, 44696), (91, 44609), (96, 44570), (102, 44543), (111, 44507), (117, 44486), (118, 44483),

(121, 44474), (144, 44408), (150, 44390), (157, 44375),

Gene: Smeagan\_77 Start: 45356, Stop: 44937, Start Num: 55

Candidate Starts for Smeagan\_77:

(31, 45404), (40, 45386), (46, 45371), (Start: 55 @45356 has 127 MA's), (Start: 72 @45293 has 2 MA's), (93, 45170), (96, 45149), (111, 45086), (121, 45053), (136, 45008), (139, 44999), (144, 44984), (150, 44966), (152, 44963), (157, 44951),

Gene: SnapTap\_74 Start: 44775, Stop: 44356, Start Num: 55

Candidate Starts for SnapTap\_74:

(39, 44814), (Start: 48 @44787 has 3 MA's), (Start: 55 @44775 has 127 MA's), (65, 44739), (68, 44724), (Start: 72 @44712 has 2 MA's), (73, 44694), (93, 44589), (95, 44577), (96, 44568), (117, 44484), (121, 44472), (136, 44427), (144, 44403), (152, 44382), (157, 44370),

Gene: Snape\_77 Start: 44317, Stop: 43880, Start Num: 53

Candidate Starts for Snape\_77:

(Start: 47 @44329 has 14 MA's), (Start: 53 @44317 has 23 MA's), (Start: 61 @44293 has 3 MA's), (Start: 72 @44254 has 2 MA's), (73, 44236), (87, 44167), (93, 44128), (98, 44101), (100, 44086), (103, 44077), (110, 44047), (111, 44044), (117, 44023), (148, 43930), (152, 43921),

Gene: SororFago\_76 Start: 45272, Stop: 44877, Start Num: 54

Candidate Starts for SororFago\_76:

(Start: 54 @45272 has 29 MA's), (73, 45191), (87, 45128), (95, 45077), (101, 45041), (110, 45008), (116, 44987), (119, 44978),

Gene: Soups\_82 Start: 44862, Stop: 44464, Start Num: 55

Candidate Starts for Soups\_82:

(Start: 55 @44862 has 127 MA's), (62, 44832), (77, 44754), (93, 44679), (95, 44667), (110, 44598), (111, 44595), (139, 44520), (157, 44472),

Gene: Spouty\_74 Start: 43907, Stop: 43464, Start Num: 44

Candidate Starts for Spouty\_74:

(Start: 44 @43907 has 10 MA's), (Start: 54 @43883 has 29 MA's), (Start: 61 @43859 has 3 MA's), (71, 43823), (79, 43772), (90, 43718), (93, 43697), (96, 43676), (100, 43655), (102, 43649), (110, 43616), (111, 43613), (117, 43592), (118, 43589), (142, 43523), (143, 43520), (160, 43478), (162, 43475),

Gene: StarStuff\_77 Start: 45279, Stop: 44860, Start Num: 55

Candidate Starts for StarStuff\_77:

(Start: 55 @45279 has 127 MA's), (78, 45171), (85, 45141), (93, 45096), (102, 45048), (110, 45015), (111, 45012), (117, 44991), (131, 44949), (143, 44916), (147, 44904), (152, 44892), (160, 44874),

Gene: Steamy\_69 Start: 43627, Stop: 43226, Start Num: 55

Candidate Starts for Steamy\_69:

(Start: 55 @43627 has 127 MA's), (71, 43567), (78, 43519), (81, 43504), (86, 43486), (93, 43444), (94, 43438), (105, 43381), (110, 43363), (122, 43324), (127, 43309), (131, 43297), (136, 43285), (143, 43264),

Gene: Strosahl\_83 Start: 45073, Stop: 44675, Start Num: 55

Candidate Starts for Strosahl\_83:

(Start: 55 @45073 has 127 MA's), (62, 45043), (77, 44965), (93, 44890), (95, 44878), (110, 44809), (111, 44806), (139, 44731), (157, 44683),

Gene: Sunhee\_76 Start: 43354, Stop: 42959, Start Num: 54

Candidate Starts for Sunhee\_76:

(Start: 54 @43354 has 29 MA's), (Start: 72 @43291 has 2 MA's), (87, 43210), (95, 43159), (101, 43123), (110, 43090), (112, 43084), (118, 43063), (146, 42982),

Gene: SuperAwesome\_77 Start: 44306, Stop: 43905, Start Num: 47

Candidate Starts for SuperAwesome\_77:

(Start: 47 @44306 has 14 MA's), (Start: 55 @44291 has 127 MA's), (Start: 61 @44267 has 3 MA's), (69, 44237), (Start: 72 @44228 has 2 MA's), (73, 44210), (76, 44195), (102, 44060), (110, 44027), (111, 44024), (118, 44000), (121, 43991), (136, 43958), (146, 43928), (147, 43925),

Gene: Superchunk\_77 Start: 44436, Stop: 44017, Start Num: 55

Candidate Starts for Superchunk\_77:

(30, 44484), (Start: 55 @44436 has 127 MA's), (74, 44352), (83, 44301), (85, 44295), (90, 44271), (93, 44250), (96, 44229), (108, 44169), (109, 44166), (118, 44136), (121, 44127), (142, 44070), (157, 44031),

Gene: SweetiePie\_74 Start: 44907, Stop: 44488, Start Num: 55

Candidate Starts for SweetiePie\_74:

(39, 44946), (Start: 48 @44919 has 3 MA's), (Start: 55 @44907 has 127 MA's), (68, 44856), (Start: 72 @44844 has 2 MA's), (73, 44826), (93, 44721), (95, 44709), (96, 44700), (117, 44616), (121, 44604), (136, 44559), (144, 44535), (152, 44514), (157, 44502),

Gene: SwirlSquare\_81 Start: 44189, Stop: 43806, Start Num: 65

Candidate Starts for SwirlSquare\_81:

(20, 44327), (27, 44285), (30, 44282), (Start: 55 @44225 has 127 MA's), (65, 44189), (80, 44105), (83, 44090), (85, 44084), (90, 44060), (93, 44039), (95, 44027), (96, 44018), (108, 43958), (121, 43916), (152, 43832), (157, 43820),

Gene: Switzerland\_82 Start: 45135, Stop: 44737, Start Num: 55

Candidate Starts for Switzerland\_82:

(Start: 55 @45135 has 127 MA's), (62, 45105), (77, 45027), (93, 44952), (95, 44940), (110, 44871), (111, 44868), (139, 44793), (157, 44745),

Gene: TarsusIV\_72 Start: 44821, Stop: 44408, Start Num: 55

Candidate Starts for TarsusIV\_72:

(51, 44827), (Start: 55 @44821 has 127 MA's), (73, 44740), (88, 44671), (107, 44554), (111, 44551), (117, 44530), (121, 44518), (136, 44479), (157, 44422),

Gene: Temprado\_78 Start: 43777, Stop: 43391, Start Num: 55

Candidate Starts for Temprado\_78:

(Start: 43 @43804 has 7 MA's), (Start: 55 @43777 has 127 MA's), (70, 43720), (76, 43681), (96, 43573), (97, 43570), (100, 43552), (110, 43513), (111, 43510), (118, 43486), (124, 43468), (132, 43453), (146, 43414),

Gene: Terrific\_75 Start: 44751, Stop: 44332, Start Num: 55

Candidate Starts for Terrific\_75:

(19, 44850), (21, 44844), (31, 44793), (Start: 55 @44751 has 127 MA's), (Start: 72 @44688 has 2 MA's), (73, 44670), (91, 44583), (96, 44544), (102, 44517), (111, 44481), (117, 44460), (118, 44457), (121, 44448), (144, 44382), (150, 44364), (157, 44349),

Gene: Timothy\_77 Start: 44294, Stop: 43857, Start Num: 53

Candidate Starts for Timothy\_77:

(Start: 47 @44306 has 14 MA's), (Start: 53 @44294 has 23 MA's), (Start: 61 @44270 has 3 MA's), (Start: 72 @44231 has 2 MA's), (73, 44213), (87, 44144), (93, 44105), (98, 44078), (100, 44063), (103, 44054), (110, 44024), (111, 44021), (117, 44000), (148, 43907), (152, 43898),

Gene: TinyTimmy\_75 Start: 44023, Stop: 43586, Start Num: 53

Candidate Starts for TinyTimmy\_75:

(Start: 47 @44035 has 14 MA's), (Start: 53 @44023 has 23 MA's), (Start: 61 @43999 has 3 MA's), (Start: 72 @43960 has 2 MA's), (73, 43942), (87, 43873), (93, 43834), (98, 43807), (100, 43792), (103, 43783), (110, 43753), (111, 43750), (117, 43729), (148, 43636), (152, 43627),

Gene: TopsytheTRex\_74 Start: 44412, Stop: 43975, Start Num: 55

Candidate Starts for TopsytheTRex\_74:

(19, 44514), (21, 44508), (37, 44454), (Start: 55 @44412 has 127 MA's), (Start: 61 @44388 has 3 MA's), (96, 44202), (108, 44142), (118, 44109), (121, 44100), (136, 44061), (164, 43989),

Gene: Toaka\_76 Start: 44412, Stop: 43990, Start Num: 54

Candidate Starts for Toaka\_76:

(Start: 54 @44412 has 29 MA's), (Start: 61 @44388 has 3 MA's), (73, 44331), (89, 44247), (90, 44244), (93, 44223), (96, 44202), (98, 44196), (100, 44181), (102, 44175), (110, 44142), (111, 44139), (141, 44052), (159, 44007), (160, 44004), (162, 44001),

Gene: Tomathan\_77 Start: 45390, Stop: 44971, Start Num: 55

Candidate Starts for Tomathan\_77:

(Start: 55 @45390 has 127 MA's), (69, 45336), (78, 45282), (93, 45207), (102, 45159), (110, 45126), (111, 45123), (117, 45102), (131, 45060), (136, 45048), (143, 45027), (147, 45015), (152, 45003), (160, 44985),

Gene: ToneTone\_74 Start: 43337, Stop: 42951, Start Num: 55

Candidate Starts for ToneTone\_74:

(Start: 43 @43364 has 7 MA's), (Start: 55 @43337 has 127 MA's), (70, 43280), (76, 43241), (96, 43133), (97, 43130), (100, 43112), (110, 43073), (111, 43070), (118, 43046), (124, 43028), (132, 43013), (146, 42974),

Gene: Travvers\_76 Start: 45276, Stop: 44857, Start Num: 55

Candidate Starts for Travvers\_76:

(Start: 55 @45276 has 127 MA's), (78, 45168), (93, 45093), (102, 45045), (110, 45012), (111, 45009), (117, 44988), (131, 44946), (143, 44913), (147, 44901), (152, 44889), (160, 44871),

Gene: Tristan\_70 Start: 45843, Stop: 45430, Start Num: 55

Candidate Starts for Tristan\_70:

(Start: 55 @45843 has 127 MA's), (57, 45831), (Start: 61 @45819 has 3 MA's), (71, 45783), (73, 45762), (78, 45735), (88, 45696), (93, 45660), (102, 45612), (111, 45573), (117, 45552), (126, 45525), (129, 45519), (139, 45486),

Gene: Trixie\_74 Start: 45538, Stop: 45125, Start Num: 55

Candidate Starts for Trixie\_74:

(27, 45586), (Start: 55 @45538 has 127 MA's), (71, 45478), (Start: 72 @45475 has 2 MA's), (77, 45436), (91, 45370), (93, 45352), (95, 45340), (117, 45247), (121, 45235), (144, 45172), (156, 45142),

Gene: Trooper\_74 Start: 44793, Stop: 44374, Start Num: 55

Candidate Starts for Trooper\_74:

(14, 44961), (16, 44943), (17, 44940), (31, 44844), (40, 44826), (Start: 48 @44805 has 3 MA's), (Start: 55 @44793 has 127 MA's), (65, 44757), (Start: 72 @44730 has 2 MA's), (73, 44712), (93, 44607),

(102, 44559), (111, 44523), (117, 44502), (118, 44499), (121, 44490), (136, 44445), (144, 44421), (147, 44412), (157, 44388),

Gene: Tubs\_76 Start: 44087, Stop: 43668, Start Num: 54

Candidate Starts for Tubs\_76:

(10, 44336), (Start: 44 @44111 has 10 MA's), (Start: 54 @44087 has 29 MA's), (Start: 61 @44063 has 3 MA's), (71, 44027), (79, 43976), (90, 43922), (93, 43901), (96, 43880), (100, 43859), (102, 43853), (110, 43820), (111, 43817), (117, 43796), (118, 43793), (142, 43727), (143, 43724), (159, 43685), (160, 43682), (162, 43679),

Gene: Tucker\_77 Start: 43540, Stop: 43154, Start Num: 55

Candidate Starts for Tucker\_77:

(Start: 43 @43567 has 7 MA's), (Start: 55 @43540 has 127 MA's), (70, 43483), (76, 43444), (96, 43336), (97, 43333), (100, 43315), (110, 43276), (111, 43273), (118, 43249), (124, 43231), (132, 43216), (146, 43177),

Gene: Turbido\_75 Start: 45075, Stop: 44656, Start Num: 55

Candidate Starts for Turbido\_75:

(Start: 55 @45075 has 127 MA's), (Start: 72 @45012 has 2 MA's), (93, 44889), (96, 44868), (111, 44805), (117, 44784), (118, 44781), (121, 44772), (144, 44703), (152, 44682), (157, 44670),

Gene: Ugenie5\_71 Start: 44378, Stop: 43956, Start Num: 54

Candidate Starts for Ugenie5\_71:

(Start: 44 @44402 has 10 MA's), (Start: 54 @44378 has 29 MA's), (Start: 61 @44354 has 3 MA's), (71, 44318), (79, 44267), (90, 44213), (93, 44192), (96, 44171), (100, 44150), (102, 44144), (110, 44111), (111, 44108), (117, 44087), (118, 44084), (142, 44018), (143, 44015), (159, 43976),

Gene: Updawg\_75 Start: 44641, Stop: 44222, Start Num: 55

Candidate Starts for Updawg\_75:

(31, 44683), (Start: 55 @44641 has 127 MA's), (Start: 72 @44578 has 2 MA's), (73, 44560), (91, 44473), (96, 44434), (102, 44407), (111, 44371), (117, 44350), (118, 44347), (121, 44338), (144, 44272), (150, 44254), (157, 44239),

Gene: VA6\_74 Start: 44831, Stop: 44418, Start Num: 55

Candidate Starts for VA6\_74:

(Start: 55 @44831 has 127 MA's), (Start: 61 @44807 has 3 MA's), (Start: 72 @44768 has 2 MA's), (73, 44750), (91, 44663), (96, 44624), (117, 44540), (118, 44537), (136, 44489), (143, 44468), (156, 44435),

Gene: VC3\_76 Start: 44797, Stop: 44378, Start Num: 55

Candidate Starts for VC3\_76:

(Start: 55 @44797 has 127 MA's), (69, 44743), (78, 44689), (93, 44614), (102, 44566), (110, 44533), (111, 44530), (117, 44509), (131, 44467), (143, 44434), (152, 44410), (160, 44392),

Gene: Vanisoa\_73 Start: 44752, Stop: 44333, Start Num: 54

Candidate Starts for Vanisoa\_73:

(Start: 54 @44752 has 29 MA's), (Start: 61 @44728 has 3 MA's), (73, 44671), (89, 44587), (110, 44482), (111, 44479), (123, 44437),

Gene: VohminGhazi\_77 Start: 43629, Stop: 43228, Start Num: 47

Candidate Starts for VohminGhazi\_77:

(Start: 47 @43629 has 14 MA's), (Start: 55 @43614 has 127 MA's), (Start: 61 @43590 has 3 MA's), (69, 43560), (Start: 72 @43551 has 2 MA's), (73, 43533), (76, 43518), (102, 43383), (110, 43350),

(111, 43347), (118, 43323), (121, 43314), (136, 43281), (146, 43251), (147, 43248),

Gene: Waits\_82 Start: 44973, Stop: 44575, Start Num: 55

Candidate Starts for Waits\_82:

(Start: 55 @44973 has 127 MA's), (62, 44943), (77, 44865), (93, 44790), (95, 44778), (110, 44709), (111, 44706), (139, 44631), (157, 44583),

Gene: Warrior24\_84 Start: 45450, Stop: 45052, Start Num: 55

Candidate Starts for Warrior24\_84:

(Start: 55 @45450 has 127 MA's), (62, 45420), (77, 45342), (93, 45267), (95, 45255), (110, 45186), (111, 45183), (139, 45108), (157, 45060),

Gene: Whabigail7\_75 Start: 45075, Stop: 44656, Start Num: 55

Candidate Starts for Whabigail7\_75:

(31, 45123), (40, 45105), (46, 45090), (Start: 55 @45075 has 127 MA's), (Start: 72 @45012 has 2 MA's), (93, 44889), (96, 44868), (111, 44805), (121, 44772), (136, 44727), (139, 44718), (144, 44703), (150, 44685), (152, 44682), (157, 44670),

Gene: WideWale\_75 Start: 44641, Stop: 44222, Start Num: 55

Candidate Starts for WideWale\_75:

(31, 44683), (Start: 55 @44641 has 127 MA's), (Start: 72 @44578 has 2 MA's), (73, 44560), (91, 44473), (96, 44434), (102, 44407), (111, 44371), (117, 44350), (118, 44347), (121, 44338), (144, 44272), (150, 44254), (157, 44239),

Gene: Wiks\_76 Start: 43408, Stop: 43022, Start Num: 55

Candidate Starts for Wiks\_76:

(Start: 43 @43435 has 7 MA's), (Start: 55 @43408 has 127 MA's), (70, 43351), (76, 43312), (96, 43204), (97, 43201), (100, 43183), (110, 43144), (111, 43141), (118, 43117), (124, 43099), (132, 43084), (146, 43045),

Gene: WunderPhul\_77 Start: 43433, Stop: 43020, Start Num: 43

Candidate Starts for WunderPhul\_77:

(Start: 43 @43433 has 7 MA's), (Start: 55 @43406 has 127 MA's), (70, 43349), (76, 43310), (96, 43202), (97, 43199), (100, 43181), (110, 43142), (111, 43139), (118, 43115), (124, 43097), (132, 43082), (146, 43043),

Gene: XianYue\_70 Start: 44566, Stop: 44156, Start Num: 55

Candidate Starts for XianYue\_70:

(30, 44623), (Start: 55 @44566 has 127 MA's), (73, 44485), (83, 44434), (102, 44335), (107, 44302), (111, 44299), (115, 44284), (128, 44248), (147, 44194), (150, 44185), (156, 44173),

Gene: Yecey3\_78 Start: 44191, Stop: 43790, Start Num: 55

Candidate Starts for Yecey3\_78:

(Start: 55 @44191 has 127 MA's), (Start: 61 @44167 has 3 MA's), (86, 44050), (96, 43987), (101, 43960), (106, 43927), (135, 43852),

Gene: Yokurt\_76 Start: 43408, Stop: 43022, Start Num: 55

Candidate Starts for Yokurt\_76:

(Start: 43 @43435 has 7 MA's), (Start: 55 @43408 has 127 MA's), (70, 43351), (76, 43312), (96, 43204), (97, 43201), (100, 43183), (110, 43144), (111, 43141), (118, 43117), (124, 43099), (132, 43084), (146, 43045),

Gene: Zaka\_77 Start: 43435, Stop: 43022, Start Num: 43

Candidate Starts for Zaka\_77:

(Start: 43 @43435 has 7 MA's), (Start: 55 @43408 has 127 MA's), (70, 43351), (76, 43312), (96, 43204), (97, 43201), (100, 43183), (110, 43144), (111, 43141), (118, 43117), (124, 43099), (132, 43084), (146, 43045),

Gene: Zimmer\_73 Start: 45201, Stop: 44794, Start Num: 49

Candidate Starts for Zimmer\_73:

(32, 45228), (Start: 49 @45201 has 1 MA's), (70, 45138), (78, 45087), (86, 45054), (93, 45012), (100, 44970), (110, 44928), (111, 44925),

Gene: Zulu\_78 Start: 43786, Stop: 43400, Start Num: 55

Candidate Starts for Zulu\_78:

(Start: 43 @43813 has 7 MA's), (Start: 55 @43786 has 127 MA's), (70, 43729), (76, 43690), (96, 43582), (97, 43579), (100, 43561), (110, 43522), (111, 43519), (118, 43495), (124, 43477), (132, 43462), (146, 43423),