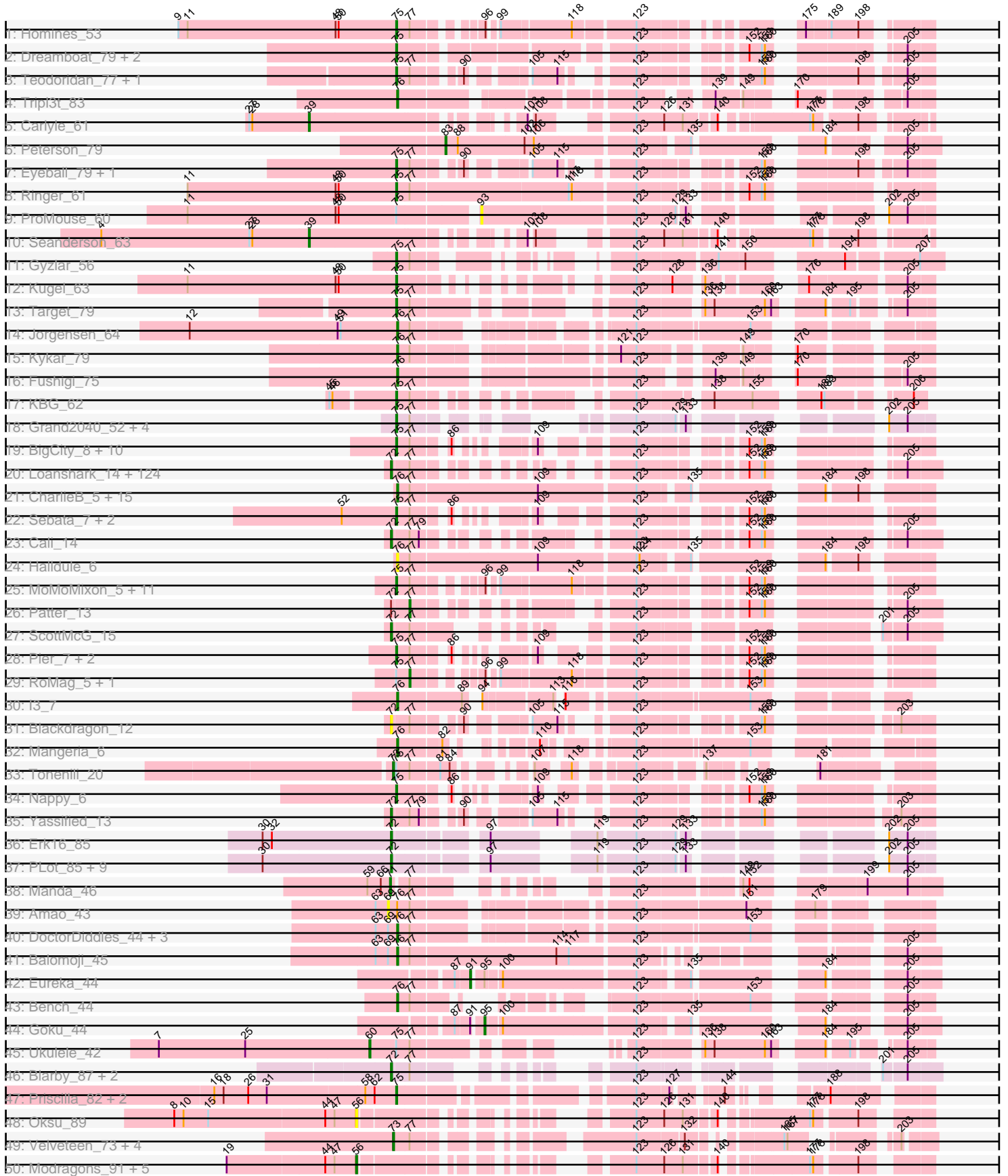
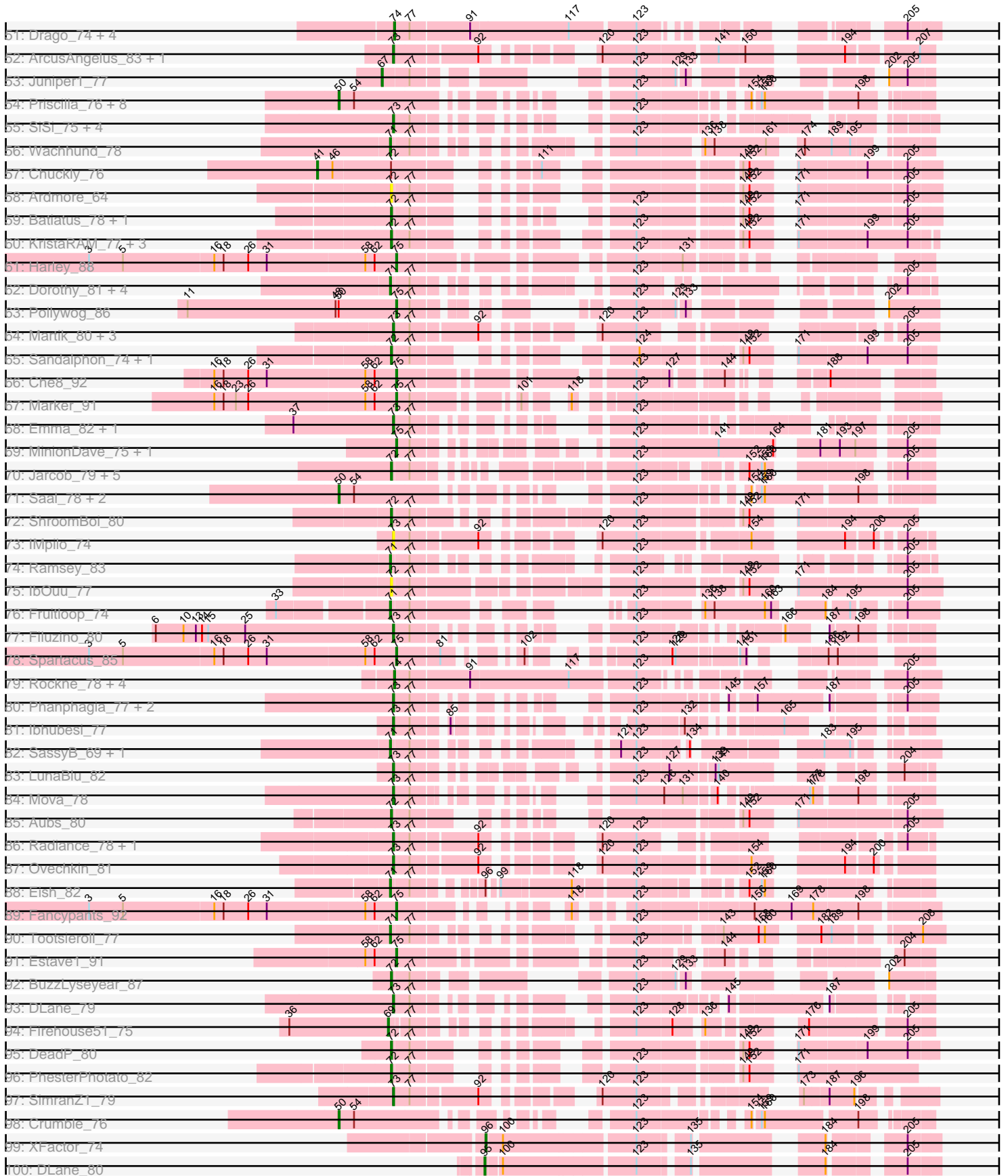


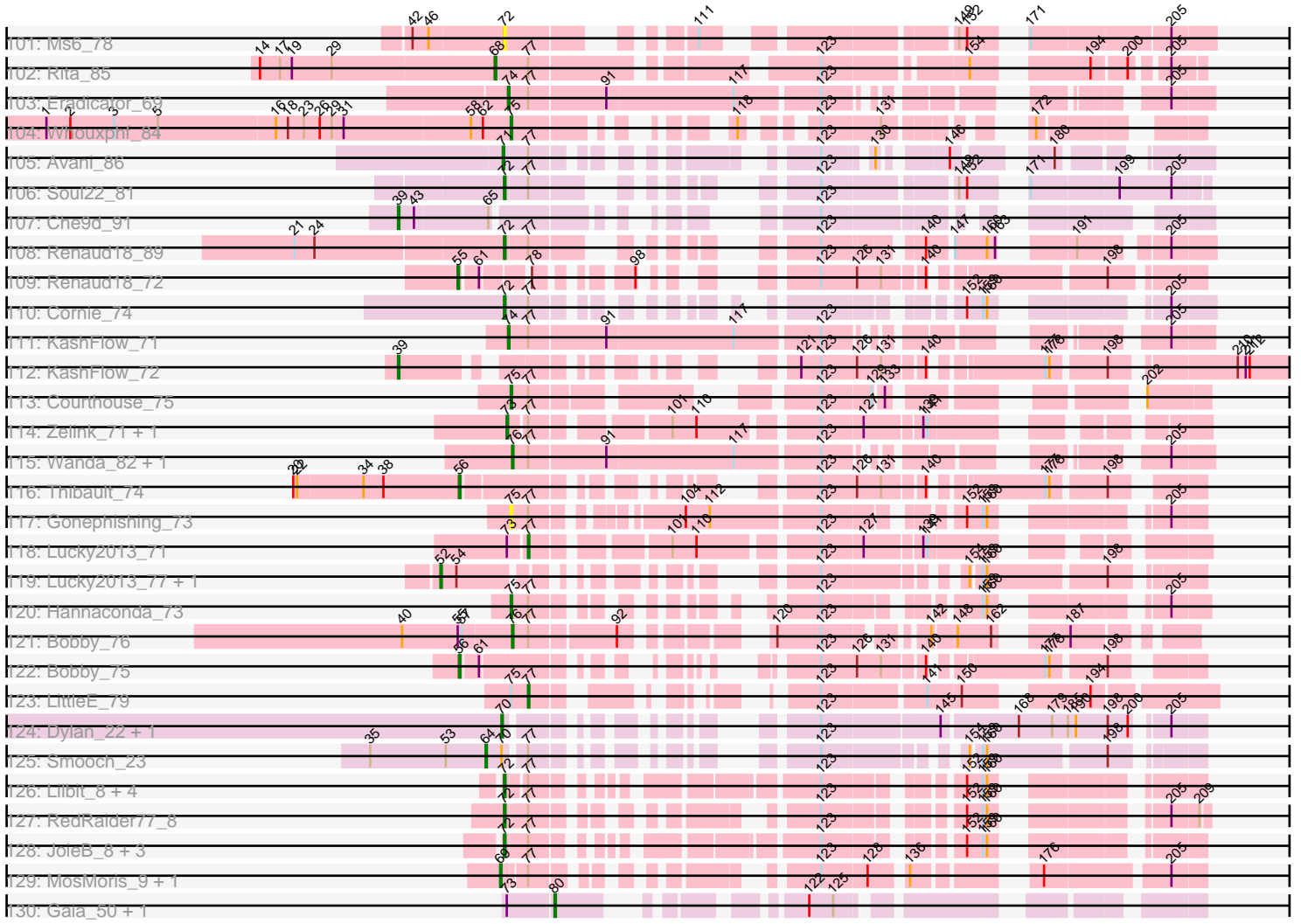
Pham 196207



Pham 196207



Pham 196207



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 196207 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196207 has 387 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Homines\_53
- Track 2 : Dreamboat\_79, Jasper\_78, PherrisBueller\_78
- Track 3 : Teodoridan\_77, Ajay\_76
- Track 4 : Tripl3t\_83
- Track 5 : Carlyle\_61
- Track 6 : Peterson\_79
- Track 7 : Eyeball\_79, KSSJEB\_78
- Track 8 : Ringer\_61
- Track 9 : ProMouse\_60
- Track 10 : Seanderson\_63
- Track 11 : Gyzlar\_56
- Track 12 : Kugel\_63
- Track 13 : Target\_79
- Track 14 : Jorgensen\_64
- Track 15 : Kykar\_79
- Track 16 : Fushigi\_75
- Track 17 : KBG\_62
- Track 18 : Grand2040\_52, LeiMonet\_54, Cosmolli16\_53, Maru\_52, Giraffe\_53
- Track 19 : BigCity\_8, InterFolia\_8, EggyFarm\_8, Grasshills\_8, LolaVinca\_8, DTDevon\_8, Tyke\_8, Specks\_8, Dandelion\_7, FrayBell\_8, Drazdys\_8
- Track 20 : Loanshark\_14, Pinkcreek\_9, Teardrop\_13, StubbySaigey\_13, BananaFence\_14, YemiJoy2021\_14, Essence\_13, LifeSavor\_14, Ewok\_14, Kboogie\_13, EmmaElysia\_13, Bonray\_14, Dietrick\_12, Jessibeth14\_14, NedWong\_14, Trinitium\_13, Phlegm\_14, ZygoTaiga\_15, Delilah\_14, Janiyra\_13, InigoMontoya\_14, Gizmo\_15, Gamgam\_13, Pivoine\_13, McWolfish\_14, Capablanca\_14, ChickenPhender\_13, Adlitam\_13, ErnieJ\_17, PurduePete\_14, Rizal\_13, Naija\_13, FoxtrotP1\_15, Audrick\_14, Derek\_14, Caravan\_16, ValleyTerrace\_13, Shifa\_10, Shelob\_17, Bipolarisk\_14, Morizzled23\_13, Amataga\_13, DrPhinkDaddy\_14, Sprinklers\_13, Turret\_13, Darko\_13, Zalkecks\_15, Wally\_13, Bread\_14, Ava3\_15, Jaygup\_13, Alice\_12, Latch\_13, Tortoise16\_12, Rahel\_13, Basquiat\_13, Matsumoto\_12, Phusco\_13, Shrimp\_14, CindyLou\_13, SilverDipper\_13, Shnickers\_13, ArcherS7\_13, JPickles\_13, BackyardAgain\_12, CharlieB\_15, TinyTim\_14, Megamind\_14, Atlantean\_13, Napoleon13\_13, ET08\_12, ChaylaJr\_13, EmToTheThree\_17, Rabinovish\_12, Jedediah\_13, Erdmann\_14, LRRHood\_14, Pleione\_15, HyRo\_11, Quasimodo\_13, SrishMeg2525\_14, Ghost\_14, Norm\_14, Chomp\_13, Littleton\_14, Zeenon\_16, Maby2021\_14, Daffodil\_15, Guwapp\_13, FudgeTart\_14, Breeniome\_14, Phox\_14, EasyJones\_13, Ngannou\_13,

Babyland\_13, Roots515\_14, Chargie21\_13, Delylah\_16, ParkTD\_14, Catera\_13, MikeLiesIn\_15, Bangla1971\_13, Burrough\_14, Khaleesi\_14, Blackbrain\_13, JustHall\_13, Melpomini\_13, Willis\_14, Stubby\_14, Jemmno\_12, BadAgartude\_14, Fludd\_13, SmallFry\_13, McGee\_13, Izajani\_14, Yucca\_13, Issimir\_14, Momo\_13, YoungMoneyMata\_13, Salacia\_15, Gabriel\_14, ShiaLabeouf\_13, Flabslab\_13, Cactojaque\_12, Ading\_13

- Track 21 : CharlieB\_5, Yassified\_6, Ronan\_6, Blackdragon\_5, Shaqnato\_6, LRRHood\_6, Koguma\_6, Bigswole\_5, Cali\_6, Phox\_6, Sprinklers\_6, Lukilu\_6, IkeLoa\_6, ET08\_5, Grungle\_6, BeanWater\_5
- Track 22 : Sebata\_7, JayJay\_6, LinStu\_7
- Track 23 : Cali\_14
- Track 24 : Halldule\_6
- Track 25 : MoMoMixon\_5, ScottMcG\_5, Nidhogg\_5, Pio\_6, Mikro\_6, Astraea\_6, Bxz1\_6, NoodleTree\_6, Spud\_6, QBert\_6, Sauce\_5, DirtMonster\_6
- Track 26 : Patter\_13
- Track 27 : ScottMcG\_15
- Track 28 : Pier\_7, NuevoMundo\_7, StephanieG\_7
- Track 29 : RoMag\_5, Kamryn\_6
- Track 30 : l3\_7
- Track 31 : Blackdragon\_12
- Track 32 : Mangeria\_6
- Track 33 : Tonenili\_20
- Track 34 : Nappy\_6
- Track 35 : Yassified\_13
- Track 36 : Erk16\_85
- Track 37 : PLOT\_85, Mopey\_86, Penelope2018\_84, Visconti\_85, WaldoWhy\_85, Chill\_85, Butterscotch\_82, Giuseppe\_86, Adjutor\_82, Thoth\_84
- Track 38 : Manda\_46
- Track 39 : Amao\_43
- Track 40 : DoctorDiddles\_44, ChotaBhai\_44, Pat3\_42, BaboJay\_42
- Track 41 : Balomoji\_45
- Track 42 : Eureka\_44
- Track 43 : Bench\_44
- Track 44 : Goku\_44
- Track 45 : Ukulele\_42
- Track 46 : Blarby\_87, Zapner\_87, Jabbawokkie\_88
- Track 47 : Priscilla\_82, Koella\_74, NormanBulbieJr\_80
- Track 48 : Oksu\_89
- Track 49 : Velveteen\_73, BigPhil\_72, Sarma624\_77, Cerasum\_72, Coco12\_75
- Track 50 : Modragons\_91, Llama\_93, Sebastian\_94, OfUltron\_94, Jinglebell\_93, Ochi17\_92
- Track 51 : Drago\_74, Enby\_78, Lorde\_77, DirtMcgirt\_76, UncleRicky\_76
- Track 52 : ArcusAngelus\_83, Chevrolet\_86
- Track 53 : Juniper1\_77
- Track 54 : Priscilla\_76, NormanBulbieJr\_75, Cabrinians\_78, Koella\_70, SwagPiggett\_82, Brocalys\_71, LastJedi\_70, FreddyB\_88, BobaPhett\_81
- Track 55 : SiSi\_75, Girr\_75, Ruby\_73, MisterCuddles\_76, Veteran\_71
- Track 56 : Wachhund\_78
- Track 57 : Chuckly\_76
- Track 58 : Ardmore\_64
- Track 59 : Batiatus\_78, Tweety\_79
- Track 60 : KristaRAM\_77, Nitzel\_73, Bobi\_85, Krakatau\_74
- Track 61 : Harley\_88

- Track 62 : Dorothy\_81, Inventum\_78, RedBird\_81, Sassafras\_81, SuperGrey\_79
- Track 63 : Pollywog\_86
- Track 64 : Martik\_80, Pippy\_75, Blexus\_75, Leozinho\_78
- Track 65 : Sandalphon\_74, Minnie\_76
- Track 66 : Che8\_92
- Track 67 : Marker\_91
- Track 68 : Emma\_82, Mantra\_76
- Track 69 : MinionDave\_75, CaptainTrips\_79
- Track 70 : Jarcob\_79, Clifton\_72, Philus\_82, James\_80, DRBy19\_83, OlympiaSaint\_79
- Track 71 : Saal\_78, Gorge\_80, Lizziana\_83
- Track 72 : ShroomBoi\_80
- Track 73 : IMpilo\_74
- Track 74 : Ramsey\_83
- Track 75 : IbOuu\_77
- Track 76 : Fruitloop\_74
- Track 77 : Filuzino\_80
- Track 78 : Spartacus\_85
- Track 79 : Rockne\_78, Phatniss\_74, Llij\_73, Boomer\_81, PMC\_74
- Track 80 : Phanphagia\_77, Shauna1\_78, Kingsley\_82
- Track 81 : lbhubesi\_77
- Track 82 : SassyB\_69, PopTart\_69
- Track 83 : LunaBlu\_82
- Track 84 : Mova\_78
- Track 85 : Aubs\_80
- Track 86 : Radiance\_78, Dante\_78
- Track 87 : Ovechkin\_81
- Track 88 : Eish\_82
- Track 89 : Fancypants\_92
- Track 90 : Tootsieroll\_77
- Track 91 : Estave1\_91
- Track 92 : BuzzLyseyear\_87
- Track 93 : DLane\_79
- Track 94 : Firehouse51\_75
- Track 95 : DeadP\_80
- Track 96 : PhesterPhotato\_82
- Track 97 : SimranZ1\_79
- Track 98 : Crumble\_76
- Track 99 : XFactor\_74
- Track 100 : DLane\_80
- Track 101 : Ms6\_78
- Track 102 : Rita\_85
- Track 103 : Eradicator\_69
- Track 104 : Whouxphf\_84
- Track 105 : Avani\_86
- Track 106 : Soul22\_81
- Track 107 : Che9d\_91
- Track 108 : Renaud18\_89
- Track 109 : Renaud18\_72
- Track 110 : Cornie\_74
- Track 111 : KashFlow\_71
- Track 112 : KashFlow\_72
- Track 113 : Courthouse\_75

- Track 114 : Zelink\_71, Schatzie\_68
- Track 115 : Wanda\_82, Klein\_78
- Track 116 : Thibault\_74
- Track 117 : Gonephishing\_73
- Track 118 : Lucky2013\_71
- Track 119 : Lucky2013\_77, Superphikiman\_77
- Track 120 : Hannaconda\_73
- Track 121 : Bobby\_76
- Track 122 : Bobby\_75
- Track 123 : LittleE\_79
- Track 124 : Dylan\_22, Zakhe101\_23
- Track 125 : Smooch\_23
- Track 126 : Lilbit\_8, Pringar\_7, Beelzebub\_9, FeliMaine\_7, Clarkson\_8
- Track 127 : RedRaider77\_8
- Track 128 : JoieB\_8, Huphlepuuff\_7, LittleLaf\_7, Corazon\_7
- Track 129 : MosMoris\_9, Gattaca\_9
- Track 130 : Gaia\_50, Nebkiss\_54

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

The start number called the most often in the published annotations is 72, it was called in 170 of the 366 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading\_13, Adjutor\_82, Adlitam\_13, Alice\_12, Amataga\_13, ArcherS7\_13, Ardmore\_64, Atlantean\_13, Aubs\_80, Audrick\_14, Ava3\_15, Babyland\_13, BackyardAgain\_12, BadAgartude\_14, BananaFence\_14, Bangla1971\_13, Basquiat\_13, Batiatus\_78, Beelzebub\_9, Bipolarisk\_14, Blackbrain\_13, Blackdragon\_12, Blarby\_87, Bobi\_85, Bonray\_14, Bread\_14, Breeniome\_14, Burrough\_14, Butterscotch\_82, BuzzLyseyear\_87, Cactojaque\_12, Cali\_14, Capablanca\_14, Caravan\_16, Catera\_13, Chargie21\_13, CharlieB\_15, ChaylaJr\_13, ChickenPhender\_13, Chill\_85, Chomp\_13, CindyLou\_13, Clarkson\_8, Clifton\_72, Corazon\_7, Cornie\_74, DRBy19\_83, Daffodil\_15, Darko\_13, DeadP\_80, Delilah\_14, Delylah\_16, Derek\_14, Dietrick\_12, DrPhinkDaddy\_14, ET08\_12, EasyJones\_13, EmToTheThree\_17, EmmaElysia\_13, Erdmann\_14, Erk16\_85, ErnieJ\_17, Essence\_13, Ewok\_14, FeliMaine\_7, Flabslab\_13, Fludd\_13, FoxtrotP1\_15, FudgeTart\_14, Gabriel\_14, Gamgam\_13, Ghost\_14, Giuseppe\_86, Gizmo\_15, Guwapp\_13, Huphlepuuff\_7, HyRo\_11, IbOuu\_77, InigoMontoya\_14, Issimir\_14, Izajani\_14, JPickles\_13, Jabbawokkie\_88, James\_80, Janiyra\_13, Jarcob\_79, Jaygup\_13, Jedediah\_13, Jemmno\_12, Jessibeth14\_14, JoieB\_8, JustHall\_13, Kboogie\_13, Khaleesi\_14, Krakatau\_74, KristaRAM\_77, LRRHood\_14, Latch\_13, LifeSavor\_14, Lilbit\_8, LittleLaf\_7, Littleton\_14, Loanshark\_14, Maby2021\_14, Matsumoto\_12, McGee\_13, McWolfish\_14, Megamind\_14, Melpomini\_13, MikeLiesIn\_15, Minnie\_76, Momo\_13, Mopey\_86, Morizzled23\_13, Ms6\_78, Naija\_13, Napoleon13\_13, NedWong\_14, Ngannou\_13, Nitzel\_73, Norm\_14, OlympiaSaint\_79, PLot\_85, ParkTD\_14, Penelope2018\_84, PhesterPhotato\_82, Philus\_82, Phlegm\_14, Phox\_14, Phusco\_13, Pinkcreek\_9, Pivoine\_13, Pleione\_15, Pringar\_7, PurduePete\_14, Quasimodo\_13, Rabinovish\_12, Rahel\_13, RedRaider77\_8, Renaud18\_89, Rizal\_13, Roots515\_14, Salacia\_15, Sandalphon\_74, ScottMcG\_15, Shelob\_17, ShiaLabeouf\_13, Shifa\_10,

Shnickers\_13, Shrimp\_14, ShroomBoi\_80, SilverDipper\_13, SmallFry\_13, Soul22\_81, Sprinklers\_13, SrishMeg2525\_14, StubbySaigey\_13, Stubby\_14, Teardrop\_13, Thoth\_84, TinyTim\_14, Tortoise16\_12, Trinitium\_13, Turret\_13, Tweety\_79, ValleyTerrace\_13, Visconti\_85, WaldoWhy\_85, Wally\_13, Willis\_14, Yassified\_13, YemiJoy2021\_14, YoungMoneyMata\_13, Yucca\_13, Zalkecks\_15, Zapner\_87, Zeenon\_16, ZygoTaiga\_15,

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

- Chuckly\_76, Patter\_13,

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

- Ajay\_76, Amao\_43, ArcusAngelus\_83, Astraea\_6, Avani\_86, BaboJay\_42, Balomoji\_45, BeanWater\_5, Bench\_44, BigCity\_8, BigPhil\_72, Bigswole\_5, Blackdragon\_5, Blexus\_75, BobaPhett\_81, Bobby\_75, Bobby\_76, Boomer\_81, Brocalys\_71, Bxz1\_6, Cabrinians\_78, Cali\_6, CaptainTrips\_79, Carlyle\_61, Cerasum\_72, CharlieB\_5, Che8\_92, Che9d\_91, Chevrolet\_86, ChotaBhai\_44, Coco12\_75, Cosmolli16\_53, Courthouse\_75, Crumble\_76, DLane\_79, DLane\_80, DTDevon\_8, Dandelion\_7, Dante\_78, DirtMcgirt\_76, DirtMonster\_6, DoctorDiddles\_44, Dorothy\_81, Drago\_74, Drazdys\_8, Dreamboat\_79, Dylan\_22, ET08\_5, EggyFarm\_8, Eish\_82, Emma\_82, Enby\_78, Eradicator\_69, Estave1\_91, Eureka\_44, Eyeball\_79, Fancypants\_92, Filuzino\_80, Firehouse51\_75, FrayBell\_8, FreddyB\_88, Fruitloop\_74, Fushigi\_75, Gaia\_50, Gattaca\_9, Giraffe\_53, Girr\_75, Goku\_44, Gonephishing\_73, Gorge\_80, Grand2040\_52, Grasshills\_8, Grungle\_6, Gyzlar\_56, Halldule\_6, Hannaconda\_73, Harley\_88, Homines\_53, I3\_7, IMpilo\_74, Ibhubesi\_77, IkeLoa\_6, InterFolia\_8, Inventum\_78, Jasper\_78, JayJay\_6, Jinglebell\_93, Jorgensen\_64, Juniper1\_77, KBG\_62, KSSJEB\_78, Kamryn\_6, KashFlow\_71, KashFlow\_72, Kingsley\_82, Klein\_78, Koella\_70, Koella\_74, Koguma\_6, Kugel\_63, Kykar\_79, LRRHood\_6, LastJedi\_70, LeiMonet\_54, Leozinho\_78, LinStu\_7, LittleE\_79, Lizziana\_83, Llama\_93, Llij\_73, LolaVinca\_8, Lorde\_77, Lucky2013\_71, Lucky2013\_77, Lukilu\_6, LunaBlu\_82, Manda\_46, Mangeria\_6, Mantra\_76, Marker\_91, Martik\_80, Maru\_52, Mikro\_6, MinionDave\_75, MisterCuddles\_76, MoMoMixon\_5, Modragons\_91, MosMoris\_9, Mova\_78, Nappy\_6, Nebkiss\_54, Nidhogg\_5, NoodleTree\_6, NormanBulbieJr\_75, NormanBulbieJr\_80, NuevoMundo\_7, Ochi17\_92, OfUltron\_94, Oksu\_89, Ovechkin\_81, PMC\_74, Pat3\_42, Peterson\_79, Phanphagia\_77, Phatniss\_74, PherrisBueller\_78, Phox\_6, Pier\_7, Pio\_6, Pippy\_75, Pollywog\_86, PopTart\_69, Priscilla\_76, Priscilla\_82, ProMouse\_60, QBert\_6, Radiance\_78, Ramsey\_83, RedBird\_81, Renaud18\_72, Ringer\_61, Rita\_85, RoMag\_5, Rockne\_78, Ronan\_6, Ruby\_73, Saal\_78, Sarma624\_77, Sassafras\_81, SassyB\_69, Sauce\_5, Schatzie\_68, ScottMcG\_5, Seabastian\_94, Seanderson\_63, Sebata\_7, Shaqnato\_6, Shauna1\_78, SiSi\_75, SimranZ1\_79, Smooch\_23, Spartacus\_85, Specks\_8, Sprinklers\_6, Spud\_6, StephanieG\_7, SuperGrey\_79, Superphikiman\_77, SwagPiggett\_82, Target\_79, Teodoridan\_77, Thibault\_74, Tonenili\_20, Tootsieroll\_77, Tripl3t\_83, Tyke\_8, Ukulele\_42, UncleRicky\_76, Velveteen\_73, Veteran\_71, Wachhund\_78, Wanda\_82, Whouxphf\_84, XFactor\_74, Yassified\_6, Zakhe101\_23, Zelink\_71,

### Summary by start number:

Start 39:

- Found in 4 of 387 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 4 of 366
- Called 100.0% of time when present



- Phage (with cluster) where this start called: Carlyle\_61 (A1), Che9d\_91 (F2), KashFlow\_72 (J), Seanderson\_63 (A1),

#### Start 41:

- Found in 1 of 387 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chuckly\_76 (F1),

#### Start 50:

- Found in 18 of 387 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 13 of 366
- Called 72.2% of time when present
- Phage (with cluster) where this start called: BobaPhett\_81 (F1), Brocalys\_71 (F1), Cabrinians\_78 (F1), Crumble\_76 (F1), FreddyB\_88 (F1), Gorge\_80 (F1), Koella\_70 (F1), LastJedi\_70 (F1), Lizziana\_83 (F1), NormanBulbieJr\_75 (F1), Priscilla\_76 (F1), Saal\_78 (F1), SwagPigglett\_82 (F1),

#### Start 52:

- Found in 5 of 387 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 2 of 366
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Lucky2013\_77 (J), Superphikiman\_77 (J),

#### Start 55:

- Found in 2 of 387 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Renaud18\_72 (F4),

#### Start 56:

- Found in 9 of 387 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 8 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bobby\_75 (J), Jinglebell\_93 (F1), Llama\_93 (F1), Modragons\_91 (F1), Ochi17\_92 (F1), OfUltron\_94 (F1), Oksu\_89 (F1), Sebastian\_94 (F1), Thibault\_74 (J),

#### Start 60:

- Found in 1 of 387 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ukulele\_42 (E),

#### Start 64:

- Found in 1 of 387 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Smooch\_23 (O),

#### Start 67:

- Found in 1 of 387 ( 0.3% ) of genes in pham

- Manual Annotations of this start: 1 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juniper1\_77 (F1),

#### Start 68:

- Found in 1 of 387 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rita\_85 (F1),

#### Start 69:

- Found in 9 of 387 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 3 of 366
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Amao\_43 (E), Firehouse51\_75 (F1), Gattaca\_9 (S), MosMoris\_9 (S),

#### Start 70:

- Found in 3 of 387 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 366
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Dylan\_22 (O), Zakhe101\_23 (O),

#### Start 71:

- Found in 14 of 387 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 14 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Avani\_86 (F2), Dorothy\_81 (F1), Eish\_82 (F1), Fruitloop\_74 (F1), Inventum\_78 (F1), Manda\_46 (E), PopTart\_69 (F1), Ramsey\_83 (F1), RedBird\_81 (F1), Sassafras\_81 (F1), SassyB\_69 (F1), SuperGrey\_79 (F1), Tootsieroll\_77 (F1), Wachhund\_78 (F1),

#### Start 72:

- Found in 180 of 387 ( 46.5% ) of genes in pham
- Manual Annotations of this start: 170 of 366
- Called 98.9% of time when present
- Phage (with cluster) where this start called: Ading\_13 (C1), Adjutor\_82 (D1), Adlitam\_13 (C1), Alice\_12 (C1), Amataga\_13 (C1), ArcherS7\_13 (C1), Ardmore\_64 (F1), Atlantean\_13 (C1), Aubs\_80 (F1), Audrick\_14 (C1), Ava3\_15 (C1), Babyland\_13 (C1), BackyardAgain\_12 (C1), BadAgartude\_14 (C1), BananaFence\_14 (C1), Bangla1971\_13 (C1), Basquiat\_13 (C1), Batiatus\_78 (F1), Beelzebub\_9 (S), Bipolarisk\_14 (C1), Blackbrain\_13 (C1), Blackdragon\_12 (C1), Blarby\_87 (F), Bobi\_85 (F1), Bonray\_14 (C1), Bread\_14 (C1), Breeniome\_14 (C1), Burrough\_14 (C1), Butterscotch\_82 (D1), BuzzLyseyear\_87 (F1), Cactojaque\_12 (C1), Cali\_14 (C1), Capablanca\_14 (C1), Caravan\_16 (C1), Catera\_13 (C1), Chargie21\_13 (C1), CharlieB\_15 (C1), ChaylaJr\_13 (C1), ChickenPhender\_13 (C1), Chill\_85 (D1), Chomp\_13 (C1), CindyLou\_13 (C1), Clarkson\_8 (S), Clifton\_72 (F1), Corazon\_7 (S), Cornie\_74 (F5), DRBy19\_83 (F1), Daffodil\_15 (C1), Darko\_13 (C1), DeadP\_80 (F1), Delilah\_14 (C1), Delylah\_16 (C1), Derek\_14 (C1), Dietrick\_12 (C1), DrPhinkDaddy\_14 (C1), ET08\_12 (C1), EasyJones\_13 (C1), EmToTheThree\_17 (C1), EmmaElysia\_13 (C1), Erdmann\_14 (C1), Erk16\_85 (D1), ErnieJ\_17 (C1), Essence\_13 (C1), Ewok\_14 (C1), FeliMaine\_7 (S), Flabslab\_13 (C1), Fludd\_13 (C1), FoxtrotP1\_15 (C1), FudgeTart\_14 (C1), Gabriel\_14 (C1), Gamgam\_13 (C1),

Ghost\_14 (C1), Giuseppe\_86 (D1), Gizmo\_15 (C1), Guwapp\_13 (C1), Huphlepuuff\_7 (S), HyRo\_11 (C1), IbOuu\_77 (F1), InigoMontoya\_14 (C1), Issimir\_14 (C1), Izajani\_14 (C1), JPickles\_13 (C1), Jabbawokkie\_88 (F2), James\_80 (F1), Janiyra\_13 (C1), Jarcob\_79 (F1), Jaygup\_13 (C1), Jedediah\_13 (C1), Jemmno\_12 (C1), Jessibeth14\_14 (C1), JoieB\_8 (S), JustHall\_13 (C1), Kboogie\_13 (C1), Khaleesi\_14 (C1), Krakatau\_74 (F1), KristaRAM\_77 (F1), LRRHood\_14 (C1), Latch\_13 (C1), LifeSavor\_14 (C1), Lilbit\_8 (S), LittleLaf\_7 (S), Littleton\_14 (C1), Loanshark\_14 (C1), Maby2021\_14 (C1), Matsumoto\_12 (C1), McGee\_13 (C1), McWolfish\_14 (C1), Megamind\_14 (C1), Melpomini\_13 (C1), MikeLiesIn\_15 (C1), Minnie\_76 (F1), Momo\_13 (C1), Mopey\_86 (D1), Morizzled23\_13 (C1), Ms6\_78 (F1), Naija\_13 (C1), Napoleon13\_13 (C1), NedWong\_14 (C1), Ngannou\_13 (C1), Nitzel\_73 (F1), Norm\_14 (C1), OlympiaSaint\_79 (F1), PLOT\_85 (D1), ParkTD\_14 (C1), Penelope2018\_84 (D1), PhesterPhotato\_82 (F1), Philus\_82 (F1), Phlegm\_14 (C1), Phox\_14 (C1), Phusco\_13 (C1), Pinkcreek\_9 (C1), Pivoine\_13 (C1), Pleione\_15 (C1), Pringar\_7 (S), PurduePete\_14 (C1), Quasimodo\_13 (C1), Rabinovich\_12 (C1), Rahel\_13 (C1), RedRaider77\_8 (S), Renaud18\_89 (F4), Rizal\_13 (C1), Roots515\_14 (C1), Salacia\_15 (C1), Sandalphon\_74 (F1), ScottMcG\_15 (C1), Shelob\_17 (C1), ShiaLabeouf\_13 (C1), Shifa\_10 (C1), Shnickers\_13 (C1), Shrimp\_14 (C1), ShroomBoi\_80 (F1), SilverDipper\_13 (C1), SmallFry\_13 (C1), Soul22\_81 (F2), Sprinklers\_13 (C1), SrishMeg2525\_14 (C1), StubbySaigey\_13 (C1), Stubby\_14 (C1), Teardrop\_13 (C1), Thoth\_84 (D1), TinyTim\_14 (C1), Tortoise16\_12 (C1), Trinitium\_13 (C1), Turret\_13 (C1), Tweety\_79 (F1), ValleyTerrace\_13 (C1), Visconti\_85 (D1), WaldoWhy\_85 (D1), Wally\_13 (C1), Willis\_14 (C1), Yassified\_13 (C1), YemiJoy2021\_14 (C1), YoungMoneyMata\_13 (C1), Yucca\_13 (C1), Zalkecks\_15 (C1), Zapner\_87 (F2), Zeenon\_16 (C1), ZygoTaiga\_15 (C1),

#### Start 73:

- Found in 37 of 387 ( 9.6% ) of genes in pham
- Manual Annotations of this start: 33 of 366
- Called 91.9% of time when present
- Phage (with cluster) where this start called: ArcusAngelus\_83 (F1), BigPhil\_72 (F1), Blexus\_75 (F1), Cerasum\_72 (F1), Chevrolet\_86 (F1), Coco12\_75 (F1), DLane\_79 (F1), Dante\_78 (F1), Emma\_82 (F1), Filuzino\_80 (F1), Girr\_75 (F1), IMpilo\_74 (F1), Ibhuesi\_77 (F1), Kingsley\_82 (F1), Leozinho\_78 (F1), LunaBlu\_82 (F1), Mantra\_76 (F1), Martik\_80 (F1), MisterCuddles\_76 (F1), Mova\_78 (F1), Ovechkin\_81 (F1), Phanphagia\_77 (F1), Pippy\_75 (F1), Radiance\_78 (F1), Ruby\_73 (F1), Sarma624\_77 (F1), Schatzie\_68 (J), Shauna1\_78 (F1), SiSi\_75 (F1), SimranZ1\_79 (F1), Tonenili\_20 (C1), Velveteen\_73 (F1), Veteran\_71 (F1), Zelink\_71 (J),

#### Start 74:

- Found in 12 of 387 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 12 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boomer\_81 (F1), DirtMcgirt\_76 (F1), Drago\_74 (F1), Enby\_78 (F1), Eradicator\_69 (F1), KashFlow\_71 (J), Llij\_73 (F1), Lorde\_77 (F1), PMC\_74 (F1), Phatniss\_74 (F1), Rockne\_78 (F1), UncleRicky\_76 (F1),

#### Start 75:

- Found in 70 of 387 ( 18.1% ) of genes in pham
- Manual Annotations of this start: 57 of 366
- Called 91.4% of time when present

- Phage (with cluster) where this start called: Ajay\_76 (A1), Astraea\_6 (C1), BigCity\_8 (C1), Bxz1\_6 (C1), CaptainTrips\_79 (F1), Che8\_92 (F1), Cosmolli16\_53 (B1), Courthouse\_75 (J), DTDevon\_8 (C1), Dandelion\_7 (C1), DirtMonster\_6 (C1), Drazdys\_8 (C1), Dreamboat\_79 (A1), EggyFarm\_8 (C1), Estave1\_91 (F1), Eyeball\_79 (A1), Fancypants\_92 (F1), FrayBell\_8 (C1), Giraffe\_53 (B1), Gonephishing\_73 (J), Grand2040\_52 (B1), Grasshills\_8 (C1), Gyzlar\_56 (A1), Hannaconda\_73 (J), Harley\_88 (F1), Homines\_53 (A1), InterFolia\_8 (C1), Jasper\_78 (A1), JayJay\_6 (C1), KBG\_62 (A1), KSSJEB\_78 (A1), Koella\_74 (F1), Kugel\_63 (A1), LeiMonet\_54 (B1), LinStu\_7 (C1), LolaVinca\_8 (C1), Marker\_91 (F1), Maru\_52 (B1), Mikro\_6 (C1), MinionDave\_75 (F1), MoMoMixon\_5 (C1), Nappy\_6 (C1), Nidhogg\_5 (C1), NoodleTree\_6 (C1), NormanBulbieJr\_80 (F1), NuevoMundo\_7 (C1), PherrisBueller\_78 (A1), Pier\_7 (C1), Pio\_6 (C1), Pollywog\_86 (F1), Priscilla\_82 (F1), QBert\_6 (C1), Ringer\_61 (A1), Sauce\_5 (C1), ScottMcG\_5 (C1), Sebata\_7 (C1), Spartacus\_85 (F1), Specks\_8 (C1), Spud\_6 (C1), StephanieG\_7 (C1), Target\_79 (A1), Teodoridan\_77 (A1), Tyke\_8 (C1), Whouxphf\_84 (F1),

#### Start 76:

- Found in 33 of 387 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 30 of 366
- Called 97.0% of time when present
- Phage (with cluster) where this start called: BaboJay\_42 (E), Balomoji\_45 (E), BeanWater\_5 (C1), Bench\_44 (E), Bigswole\_5 (C1), Blackdragon\_5 (C1), Bobby\_76 (J), Cali\_6 (C1), CharlieB\_5 (C1), ChotaBhai\_44 (E), DoctorDiddles\_44 (E), ET08\_5 (C1), Fushigi\_75 (A1), Grungle\_6 (C1), Halldule\_6 (C1), I3\_7 (C1), IkeLoa\_6 (C1), Jorgensen\_64 (A1), Klein\_78 (J), Koguma\_6 (C1), Kykar\_79 (A1), LRRHood\_6 (C1), Lukilu\_6 (C1), Mangeria\_6 (C1), Pat3\_42 (E), Phox\_6 (C1), Ronan\_6 (C1), Shaqnato\_6 (C1), Sprinklers\_6 (C1), Tripl3t\_83 (A1), Wanda\_82 (J), Yassified\_6 (C1),

#### Start 77:

- Found in 315 of 387 ( 81.4% ) of genes in pham
- Manual Annotations of this start: 5 of 366
- Called 1.6% of time when present
- Phage (with cluster) where this start called: Kamryn\_6 (C1), LittleE\_79 (J), Lucky2013\_71 (J), Patter\_13 (C1), RoMag\_5 (C1),

#### Start 80:

- Found in 2 of 387 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 2 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gaia\_50 (X), Nebkiss\_54 (X),

#### Start 83:

- Found in 1 of 387 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Peterson\_79 (A1),

#### Start 91:

- Found in 16 of 387 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Eureka\_44 (E),

Start 93:

- Found in 1 of 387 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ProMouse\_60 (A1),

Start 95:

- Found in 3 of 387 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 366
- Called 66.7% of time when present
- Phage (with cluster) where this start called: DLane\_80 (F1), Goku\_44 (E),

Start 96:

- Found in 17 of 387 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 1 of 366
- Called 5.9% of time when present
- Phage (with cluster) where this start called: XFactor\_74 (F1),

**Summary by clusters:**

There are 14 clusters represented in this pham: F1, F2, E, F5, F, F4, J, O, A1, S, B1, X, C1, D1,

Info for manual annotations of cluster A1:

- Start number 39 was manually annotated 2 times for cluster A1.
- Start number 75 was manually annotated 12 times for cluster A1.
- Start number 76 was manually annotated 4 times for cluster A1.
- Start number 83 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster B1:

- Start number 75 was manually annotated 4 times for cluster B1.

Info for manual annotations of cluster C1:

- Start number 72 was manually annotated 127 times for cluster C1.
- Start number 73 was manually annotated 1 time for cluster C1.
- Start number 75 was manually annotated 26 times for cluster C1.
- Start number 76 was manually annotated 17 times for cluster C1.
- Start number 77 was manually annotated 3 times for cluster C1.

Info for manual annotations of cluster D1:

- Start number 72 was manually annotated 11 times for cluster D1.

Info for manual annotations of cluster E:

- Start number 60 was manually annotated 1 time for cluster E.
- Start number 71 was manually annotated 1 time for cluster E.
- Start number 76 was manually annotated 6 times for cluster E.
- Start number 91 was manually annotated 1 time for cluster E.
- Start number 95 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster F1:

- Start number 41 was manually annotated 1 time for cluster F1.

- Start number 50 was manually annotated 13 times for cluster F1.
- Start number 56 was manually annotated 6 times for cluster F1.
- Start number 67 was manually annotated 1 time for cluster F1.
- Start number 68 was manually annotated 1 time for cluster F1.
- Start number 69 was manually annotated 1 time for cluster F1.
- Start number 71 was manually annotated 12 times for cluster F1.
- Start number 72 was manually annotated 19 times for cluster F1.
- Start number 73 was manually annotated 30 times for cluster F1.
- Start number 74 was manually annotated 11 times for cluster F1.
- Start number 75 was manually annotated 13 times for cluster F1.
- Start number 95 was manually annotated 1 time for cluster F1.
- Start number 96 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 39 was manually annotated 1 time for cluster F2.
- Start number 71 was manually annotated 1 time for cluster F2.
- Start number 72 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 55 was manually annotated 1 time for cluster F4.
- Start number 72 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 72 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster J:

- Start number 39 was manually annotated 1 time for cluster J.
- Start number 52 was manually annotated 2 times for cluster J.
- Start number 56 was manually annotated 2 times for cluster J.
- Start number 73 was manually annotated 2 times for cluster J.
- Start number 74 was manually annotated 1 time for cluster J.
- Start number 75 was manually annotated 2 times for cluster J.
- Start number 76 was manually annotated 3 times for cluster J.
- Start number 77 was manually annotated 2 times for cluster J.

Info for manual annotations of cluster O:

- Start number 64 was manually annotated 1 time for cluster O.
- Start number 70 was manually annotated 2 times for cluster O.

Info for manual annotations of cluster S:

- Start number 69 was manually annotated 2 times for cluster S.
- Start number 72 was manually annotated 8 times for cluster S.

Info for manual annotations of cluster X:

- Start number 80 was manually annotated 2 times for cluster X.

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

Gene: Ading\_13 Start: 3949, Stop: 4314, Start Num: 72

Candidate Starts for Ading\_13:

(Start: 72 @3949 has 170 MA's), (Start: 77 @3964 has 5 MA's), (123, 4099), (152, 4177), (159, 4189), (160, 4192), (205, 4285),

Gene: Adjutor\_82 Start: 59655, Stop: 60050, Start Num: 72

Candidate Starts for Adjutor\_82:

(30, 59532), (Start: 72 @59655 has 170 MA's), (97, 59730), (119, 59802), (123, 59835), (129, 59871), (133, 59877), (202, 60009), (205, 60027),

Gene: Adlitam\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Adlitam\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Ajay\_76 Start: 46873, Stop: 46502, Start Num: 75

Candidate Starts for Ajay\_76:

(Start: 75 @46873 has 57 MA's), (Start: 77 @46861 has 5 MA's), (90, 46825), (105, 46783), (115, 46759), (123, 46717), (159, 46627), (160, 46624), (198, 46561), (205, 46525),

Gene: Alice\_12 Start: 4384, Stop: 4734, Start Num: 72

Candidate Starts for Alice\_12:

(Start: 72 @4384 has 170 MA's), (Start: 77 @4399 has 5 MA's), (123, 4519), (152, 4597), (159, 4609), (160, 4612), (205, 4705),

Gene: Amao\_43 Start: 35234, Stop: 34809, Start Num: 69

Candidate Starts for Amao\_43:

(63, 35246), (Start: 69 @35234 has 3 MA's), (Start: 76 @35225 has 30 MA's), (Start: 77 @35213 has 5 MA's), (123, 35039), (151, 34937), (179, 34895),

Gene: Amataga\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Amataga\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: ArcherS7\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for ArcherS7\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: ArcusAngelus\_83 Start: 49676, Stop: 50101, Start Num: 73

Candidate Starts for ArcusAngelus\_83:

(Start: 73 @49676 has 33 MA's), (92, 49751), (120, 49823), (123, 49856), (141, 49928), (150, 49952), (194, 50024), (207, 50087),

Gene: Ardmore\_64 Start: 42842, Stop: 43237, Start Num: 72

Candidate Starts for Ardmore\_64:

(Start: 72 @42842 has 170 MA's), (Start: 77 @42857 has 5 MA's), (149, 43079), (152, 43085), (171, 43109), (205, 43208),

Gene: Astraea\_6 Start: 1759, Stop: 2151, Start Num: 75

Candidate Starts for Astraea\_6:

(Start: 75 @1759 has 57 MA's), (Start: 77 @1771 has 5 MA's), (Start: 96 @1819 has 1 MA's), (99, 1825), (118, 1888), (123, 1942), (152, 2020), (159, 2032), (160, 2035),

Gene: Atlantean\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Atlantean\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Aubs\_80 Start: 49176, Stop: 49556, Start Num: 72

Candidate Starts for Aubs\_80:

(Start: 72 @49176 has 170 MA's), (Start: 77 @49191 has 5 MA's), (149, 49398), (152, 49404), (171, 49428), (205, 49527),

Gene: Audrick\_14 Start: 3949, Stop: 4314, Start Num: 72

Candidate Starts for Audrick\_14:

(Start: 72 @3949 has 170 MA's), (Start: 77 @3964 has 5 MA's), (123, 4099), (152, 4177), (159, 4189), (160, 4192), (205, 4285),

Gene: Ava3\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Ava3\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Avani\_86 Start: 46087, Stop: 46437, Start Num: 71

Candidate Starts for Avani\_86:

(Start: 71 @46087 has 14 MA's), (Start: 77 @46102 has 5 MA's), (123, 46237), (130, 46267), (146, 46303), (180, 46354),

Gene: BaboJay\_42 Start: 35493, Stop: 35068, Start Num: 76

Candidate Starts for BaboJay\_42:

(63, 35514), (Start: 69 @35502 has 3 MA's), (Start: 76 @35493 has 30 MA's), (Start: 77 @35481 has 5 MA's), (123, 35307), (153, 35205),

Gene: Babyland\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Babyland\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: BackyardAgain\_12 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for BackyardAgain\_12:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: BadAgartude\_14 Start: 4738, Stop: 5088, Start Num: 72

Candidate Starts for BadAgartude\_14:

(Start: 72 @4738 has 170 MA's), (Start: 77 @4753 has 5 MA's), (123, 4873), (152, 4951), (159, 4963), (160, 4966), (205, 5059),

Gene: Balomoji\_45 Start: 36485, Stop: 36057, Start Num: 76

Candidate Starts for Balomoji\_45:

(63, 36506), (Start: 69 @36494 has 3 MA's), (Start: 76 @36485 has 30 MA's), (Start: 77 @36473 has 5 MA's), (114, 36335), (117, 36323), (123, 36263), (205, 36086),

Gene: BananaFence\_14 Start: 4971, Stop: 5336, Start Num: 72

Candidate Starts for BananaFence\_14:



(Start: 72 @4971 has 170 MA's), (Start: 77 @4986 has 5 MA's), (123, 5121), (152, 5199), (159, 5211), (160, 5214), (205, 5307),

Gene: Bangla1971\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Bangla1971\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Basquiat\_13 Start: 3951, Stop: 4316, Start Num: 72

Candidate Starts for Basquiat\_13:

(Start: 72 @3951 has 170 MA's), (Start: 77 @3966 has 5 MA's), (123, 4101), (152, 4179), (159, 4191), (160, 4194), (205, 4287),

Gene: Batiatus\_78 Start: 48266, Stop: 48646, Start Num: 72

Candidate Starts for Batiatus\_78:

(Start: 72 @48266 has 170 MA's), (Start: 77 @48281 has 5 MA's), (123, 48401), (149, 48488), (152, 48494), (171, 48518), (205, 48617),

Gene: BeanWater\_5 Start: 2594, Stop: 3034, Start Num: 76

Candidate Starts for BeanWater\_5:

(Start: 76 @2594 has 30 MA's), (Start: 77 @2606 has 5 MA's), (109, 2726), (123, 2816), (135, 2858), (184, 2954), (198, 2978),

Gene: Beelzebub\_9 Start: 2804, Stop: 3181, Start Num: 72

Candidate Starts for Beelzebub\_9:

(Start: 72 @2804 has 170 MA's), (Start: 77 @2816 has 5 MA's), (123, 2972), (152, 3050), (159, 3062), (160, 3065),

Gene: Bench\_44 Start: 35114, Stop: 34752, Start Num: 76

Candidate Starts for Bench\_44:

(Start: 76 @35114 has 30 MA's), (Start: 77 @35102 has 5 MA's), (123, 34982), (153, 34880), (205, 34775),

Gene: BigCity\_8 Start: 2903, Stop: 3259, Start Num: 75

Candidate Starts for BigCity\_8:

(Start: 75 @2903 has 57 MA's), (Start: 77 @2915 has 5 MA's), (86, 2942), (109, 2987), (123, 3050), (152, 3128), (159, 3140), (160, 3143),

Gene: BigPhil\_72 Start: 44249, Stop: 44626, Start Num: 73

Candidate Starts for BigPhil\_72:

(Start: 73 @44249 has 33 MA's), (Start: 77 @44264 has 5 MA's), (123, 44420), (132, 44462), (165, 44528), (167, 44531), (203, 44600),

Gene: Bigswole\_5 Start: 1613, Stop: 2053, Start Num: 76

Candidate Starts for Bigswole\_5:

(Start: 76 @1613 has 30 MA's), (Start: 77 @1625 has 5 MA's), (109, 1745), (123, 1835), (135, 1877), (184, 1973), (198, 1997),

Gene: Bipolarisk\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Bipolarisk\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Blackbrain\_13 Start: 3966, Stop: 4331, Start Num: 72  
Candidate Starts for Blackbrain\_13:  
(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206),  
(160, 4209), (205, 4302),

Gene: Blackdragon\_5 Start: 1616, Stop: 2056, Start Num: 76  
Candidate Starts for Blackdragon\_5:  
(Start: 76 @1616 has 30 MA's), (Start: 77 @1628 has 5 MA's), (109, 1748), (123, 1838), (135, 1880),  
(184, 1976), (198, 2000),

Gene: Blackdragon\_12 Start: 4007, Stop: 4381, Start Num: 72  
Candidate Starts for Blackdragon\_12:  
(Start: 72 @4007 has 170 MA's), (Start: 77 @4022 has 5 MA's), (90, 4058), (105, 4100), (115, 4124),  
(123, 4166), (159, 4256), (160, 4259), (203, 4352),

Gene: Blarby\_87 Start: 46989, Stop: 47345, Start Num: 72  
Candidate Starts for Blarby\_87:  
(Start: 72 @46989 has 170 MA's), (Start: 77 @47004 has 5 MA's), (123, 47124), (201, 47295), (205,  
47316),

Gene: Blexus\_75 Start: 48431, Stop: 48811, Start Num: 73  
Candidate Starts for Blexus\_75:  
(Start: 73 @48431 has 33 MA's), (Start: 77 @48446 has 5 MA's), (92, 48506), (120, 48578), (123,  
48611), (205, 48788),

Gene: BobaPhett\_81 Start: 50730, Stop: 51155, Start Num: 50  
Candidate Starts for BobaPhett\_81:  
(Start: 50 @50730 has 13 MA's), (54, 50745), (123, 50925), (154, 51009), (159, 51015), (160, 51018),  
(198, 51102),

Gene: Bobby\_76 Start: 51549, Stop: 51166, Start Num: 76  
Candidate Starts for Bobby\_76:  
(40, 51630), (Start: 55 @51588 has 1 MA's), (57, 51585), (Start: 76 @51549 has 30 MA's), (Start: 77  
@51537 has 5 MA's), (92, 51477), (120, 51405), (123, 51372), (142, 51312), (148, 51297), (162,  
51273), (187, 51240),

Gene: Bobby\_75 Start: 51169, Stop: 50789, Start Num: 56  
Candidate Starts for Bobby\_75:  
(Start: 56 @51169 has 8 MA's), (61, 51157), (123, 51022), (126, 50995), (131, 50977), (140, 50950),  
(177, 50881), (178, 50878), (198, 50842),

Gene: Bobi\_85 Start: 50553, Stop: 50930, Start Num: 72  
Candidate Starts for Bobi\_85:  
(Start: 72 @50553 has 170 MA's), (Start: 77 @50568 has 5 MA's), (123, 50688), (149, 50775), (152,  
50781), (171, 50805), (199, 50868), (205, 50907),

Gene: Bonray\_14 Start: 5044, Stop: 5394, Start Num: 72  
Candidate Starts for Bonray\_14:  
(Start: 72 @5044 has 170 MA's), (Start: 77 @5059 has 5 MA's), (123, 5179), (152, 5257), (159, 5269),  
(160, 5272), (205, 5365),

Gene: Boomer\_81 Start: 48708, Stop: 49136, Start Num: 74  
Candidate Starts for Boomer\_81:

(Start: 74 @48708 has 12 MA's), (Start: 77 @48723 has 5 MA's), (Start: 91 @48777 has 1 MA's),  
(117, 48870), (123, 48930), (205, 49107),

Gene: Bread\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Bread\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275),  
(160, 5278), (205, 5371),

Gene: Breeniome\_14 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Breeniome\_14:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206),  
(160, 4209), (205, 4302),

Gene: Brocalys\_71 Start: 46210, Stop: 46635, Start Num: 50

Candidate Starts for Brocalys\_71:

(Start: 50 @46210 has 13 MA's), (54, 46225), (123, 46405), (154, 46489), (159, 46495), (160, 46498),  
(198, 46582),

Gene: Burrough\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Burrough\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275),  
(160, 5278), (205, 5371),

Gene: Butterscotch\_82 Start: 59706, Stop: 60101, Start Num: 72

Candidate Starts for Butterscotch\_82:

(30, 59583), (Start: 72 @59706 has 170 MA's), (97, 59781), (119, 59853), (123, 59886), (129, 59922),  
(133, 59928), (202, 60060), (205, 60078),

Gene: BuzzLyseyear\_87 Start: 51492, Stop: 51857, Start Num: 72

Candidate Starts for BuzzLyseyear\_87:

(Start: 72 @51492 has 170 MA's), (Start: 77 @51507 has 5 MA's), (123, 51642), (129, 51678), (133,  
51684), (202, 51816),

Gene: Bxz1\_6 Start: 1759, Stop: 2151, Start Num: 75

Candidate Starts for Bxz1\_6:

(Start: 75 @1759 has 57 MA's), (Start: 77 @1771 has 5 MA's), (Start: 96 @1819 has 1 MA's), (99,  
1825), (118, 1888), (123, 1942), (152, 2020), (159, 2032), (160, 2035),

Gene: Cabrinians\_78 Start: 48130, Stop: 48555, Start Num: 50

Candidate Starts for Cabrinians\_78:

(Start: 50 @48130 has 13 MA's), (54, 48145), (123, 48325), (154, 48409), (159, 48415), (160, 48418),  
(198, 48502),

Gene: Cactojaque\_12 Start: 3900, Stop: 4265, Start Num: 72

Candidate Starts for Cactojaque\_12:

(Start: 72 @3900 has 170 MA's), (Start: 77 @3915 has 5 MA's), (123, 4050), (152, 4128), (159, 4140),  
(160, 4143), (205, 4236),

Gene: Cali\_14 Start: 5699, Stop: 6064, Start Num: 72

Candidate Starts for Cali\_14:

(Start: 72 @5699 has 170 MA's), (Start: 77 @5714 has 5 MA's), (79, 5723), (123, 5849), (152, 5927),  
(159, 5939), (160, 5942), (205, 6035),

Gene: Cali\_6 Start: 2751, Stop: 3191, Start Num: 76

Candidate Starts for Cali\_6:

(Start: 76 @2751 has 30 MA's), (Start: 77 @2763 has 5 MA's), (109, 2883), (123, 2973), (135, 3015), (184, 3111), (198, 3135),

Gene: Capablanca\_14 Start: 5050, Stop: 5415, Start Num: 72

Candidate Starts for Capablanca\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5200), (152, 5278), (159, 5290), (160, 5293), (205, 5386),

Gene: CaptainTrips\_79 Start: 47890, Stop: 48285, Start Num: 75

Candidate Starts for CaptainTrips\_79:

(Start: 75 @47890 has 57 MA's), (Start: 77 @47902 has 5 MA's), (123, 48037), (141, 48115), (164, 48166), (181, 48190), (193, 48208), (197, 48223), (205, 48262),

Gene: Caravan\_16 Start: 5077, Stop: 5427, Start Num: 72

Candidate Starts for Caravan\_16:

(Start: 72 @5077 has 170 MA's), (Start: 77 @5092 has 5 MA's), (123, 5212), (152, 5290), (159, 5302), (160, 5305), (205, 5398),

Gene: Carlyle\_61 Start: 39697, Stop: 39242, Start Num: 39

Candidate Starts for Carlyle\_61:

(27, 39754), (28, 39751), (Start: 39 @39697 has 4 MA's), (103, 39535), (108, 39532), (123, 39475), (126, 39448), (131, 39430), (140, 39403), (177, 39334), (178, 39331), (198, 39295),

Gene: Catera\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Catera\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Cerasum\_72 Start: 44267, Stop: 44644, Start Num: 73

Candidate Starts for Cerasum\_72:

(Start: 73 @44267 has 33 MA's), (Start: 77 @44282 has 5 MA's), (123, 44438), (132, 44480), (165, 44546), (167, 44549), (203, 44618),

Gene: Chargie21\_13 Start: 3951, Stop: 4316, Start Num: 72

Candidate Starts for Chargie21\_13:

(Start: 72 @3951 has 170 MA's), (Start: 77 @3966 has 5 MA's), (123, 4101), (152, 4179), (159, 4191), (160, 4194), (205, 4287),

Gene: CharlieB\_5 Start: 1612, Stop: 2052, Start Num: 76

Candidate Starts for CharlieB\_5:

(Start: 76 @1612 has 30 MA's), (Start: 77 @1624 has 5 MA's), (109, 1744), (123, 1834), (135, 1876), (184, 1972), (198, 1996),

Gene: CharlieB\_15 Start: 4563, Stop: 4913, Start Num: 72

Candidate Starts for CharlieB\_15:

(Start: 72 @4563 has 170 MA's), (Start: 77 @4578 has 5 MA's), (123, 4698), (152, 4776), (159, 4788), (160, 4791), (205, 4884),

Gene: ChaylaJr\_13 Start: 3993, Stop: 4358, Start Num: 72

Candidate Starts for ChaylaJr\_13:

(Start: 72 @3993 has 170 MA's), (Start: 77 @4008 has 5 MA's), (123, 4143), (152, 4221), (159, 4233), (160, 4236), (205, 4329),

Gene: Che8\_92 Start: 51445, Stop: 51828, Start Num: 75

Candidate Starts for Che8\_92:

(16, 51271), (18, 51280), (26, 51304), (31, 51322), (58, 51415), (62, 51424), (Start: 75 @51445 has 57 MA's), (123, 51631), (127, 51661), (144, 51697), (188, 51748),

Gene: Che9d\_91 Start: 48600, Stop: 49028, Start Num: 39

Candidate Starts for Che9d\_91:

(Start: 39 @48600 has 4 MA's), (43, 48612), (65, 48666), (123, 48810),

Gene: Chevrolet\_86 Start: 49677, Stop: 50102, Start Num: 73

Candidate Starts for Chevrolet\_86:

(Start: 73 @49677 has 33 MA's), (92, 49752), (120, 49824), (123, 49857), (141, 49929), (150, 49953), (194, 50025), (207, 50088),

Gene: ChickenPhender\_13 Start: 3951, Stop: 4316, Start Num: 72

Candidate Starts for ChickenPhender\_13:

(Start: 72 @3951 has 170 MA's), (Start: 77 @3966 has 5 MA's), (123, 4101), (152, 4179), (159, 4191), (160, 4194), (205, 4287),

Gene: Chill\_85 Start: 59683, Stop: 60078, Start Num: 72

Candidate Starts for Chill\_85:

(30, 59560), (Start: 72 @59683 has 170 MA's), (97, 59758), (119, 59830), (123, 59863), (129, 59899), (133, 59905), (202, 60037), (205, 60055),

Gene: Chomp\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Chomp\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: ChotaBhai\_44 Start: 35156, Stop: 34737, Start Num: 76

Candidate Starts for ChotaBhai\_44:

(63, 35177), (Start: 69 @35165 has 3 MA's), (Start: 76 @35156 has 30 MA's), (Start: 77 @35144 has 5 MA's), (123, 34970), (153, 34868),

Gene: Chuckly\_76 Start: 45511, Stop: 45978, Start Num: 41

Candidate Starts for Chuckly\_76:

(Start: 41 @45511 has 1 MA's), (46, 45526), (Start: 72 @45580 has 170 MA's), (111, 45673), (149, 45820), (152, 45826), (171, 45850), (199, 45913), (205, 45949),

Gene: CindyLou\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for CindyLou\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Clarkson\_8 Start: 2580, Stop: 2957, Start Num: 72

Candidate Starts for Clarkson\_8:

(Start: 72 @2580 has 170 MA's), (Start: 77 @2592 has 5 MA's), (123, 2748), (152, 2826), (159, 2838), (160, 2841),

Gene: Clifton\_72 Start: 46816, Stop: 47196, Start Num: 72

Candidate Starts for Clifton\_72:

(Start: 72 @46816 has 170 MA's), (Start: 77 @46831 has 5 MA's), (123, 46987), (152, 47065), (159, 47077), (160, 47080), (205, 47173),

Gene: Coco12\_75 Start: 48324, Stop: 48701, Start Num: 73

Candidate Starts for Coco12\_75:

(Start: 73 @48324 has 33 MA's), (Start: 77 @48339 has 5 MA's), (123, 48495), (132, 48537), (165, 48603), (167, 48606), (203, 48675),

Gene: Corazon\_7 Start: 2530, Stop: 2910, Start Num: 72

Candidate Starts for Corazon\_7:

(Start: 72 @2530 has 170 MA's), (Start: 77 @2545 has 5 MA's), (123, 2701), (152, 2779), (159, 2791), (160, 2794),

Gene: Cornie\_74 Start: 46648, Stop: 46998, Start Num: 72

Candidate Starts for Cornie\_74:

(Start: 72 @46648 has 170 MA's), (Start: 77 @46663 has 5 MA's), (152, 46861), (159, 46873), (160, 46876), (205, 46969),

Gene: Cosmolli16\_53 Start: 47545, Stop: 47198, Start Num: 75

Candidate Starts for Cosmolli16\_53:

(Start: 75 @47545 has 57 MA's), (Start: 77 @47533 has 5 MA's), (123, 47413), (129, 47377), (133, 47371), (202, 47239), (205, 47221),

Gene: Courthouse\_75 Start: 48166, Stop: 47780, Start Num: 75

Candidate Starts for Courthouse\_75:

(Start: 75 @48166 has 57 MA's), (Start: 77 @48154 has 5 MA's), (123, 47998), (129, 47962), (133, 47956), (202, 47824),

Gene: Crumble\_76 Start: 44855, Stop: 45280, Start Num: 50

Candidate Starts for Crumble\_76:

(Start: 50 @44855 has 13 MA's), (54, 44870), (123, 45050), (154, 45134), (159, 45140), (160, 45143), (198, 45227),

Gene: DLane\_79 Start: 49141, Stop: 49515, Start Num: 73

Candidate Starts for DLane\_79:

(Start: 73 @49141 has 33 MA's), (Start: 77 @49156 has 5 MA's), (123, 49291), (145, 49360), (187, 49441),

Gene: DLane\_80 Start: 49512, Stop: 49868, Start Num: 95

Candidate Starts for DLane\_80:

(Start: 95 @49512 has 2 MA's), (100, 49524), (123, 49644), (135, 49686), (184, 49782), (205, 49839),

Gene: DRBy19\_83 Start: 50545, Stop: 50925, Start Num: 72

Candidate Starts for DRBy19\_83:

(Start: 72 @50545 has 170 MA's), (Start: 77 @50560 has 5 MA's), (123, 50716), (152, 50794), (159, 50806), (160, 50809), (205, 50902),

Gene: DTDevon\_8 Start: 2464, Stop: 2820, Start Num: 75

Candidate Starts for DTDevon\_8:

(Start: 75 @2464 has 57 MA's), (Start: 77 @2476 has 5 MA's), (86, 2503), (109, 2548), (123, 2611), (152, 2689), (159, 2701), (160, 2704),

Gene: Daffodil\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Daffodil\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Dandelion\_7 Start: 2464, Stop: 2820, Start Num: 75

Candidate Starts for Dandelion\_7:

(Start: 75 @2464 has 57 MA's), (Start: 77 @2476 has 5 MA's), (86, 2503), (109, 2548), (123, 2611), (152, 2689), (159, 2701), (160, 2704),

Gene: Dante\_78 Start: 50103, Stop: 50483, Start Num: 73

Candidate Starts for Dante\_78:

(Start: 73 @50103 has 33 MA's), (Start: 77 @50118 has 5 MA's), (92, 50178), (120, 50250), (123, 50283), (205, 50460),

Gene: Darko\_13 Start: 4940, Stop: 5305, Start Num: 72

Candidate Starts for Darko\_13:

(Start: 72 @4940 has 170 MA's), (Start: 77 @4955 has 5 MA's), (123, 5090), (152, 5168), (159, 5180), (160, 5183), (205, 5276),

Gene: DeadP\_80 Start: 47212, Stop: 47607, Start Num: 72

Candidate Starts for DeadP\_80:

(Start: 72 @47212 has 170 MA's), (Start: 77 @47227 has 5 MA's), (149, 47449), (152, 47455), (171, 47479), (199, 47542), (205, 47581),

Gene: Delilah\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Delilah\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Delylah\_16 Start: 5077, Stop: 5427, Start Num: 72

Candidate Starts for Delylah\_16:

(Start: 72 @5077 has 170 MA's), (Start: 77 @5092 has 5 MA's), (123, 5212), (152, 5290), (159, 5302), (160, 5305), (205, 5398),

Gene: Derek\_14 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Derek\_14:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Dietrick\_12 Start: 3968, Stop: 4333, Start Num: 72

Candidate Starts for Dietrick\_12:

(Start: 72 @3968 has 170 MA's), (Start: 77 @3983 has 5 MA's), (123, 4118), (152, 4196), (159, 4208), (160, 4211), (205, 4304),

Gene: DirtMcgirt\_76 Start: 45318, Stop: 45746, Start Num: 74

Candidate Starts for DirtMcgirt\_76:

(Start: 74 @45318 has 12 MA's), (Start: 77 @45333 has 5 MA's), (Start: 91 @45387 has 1 MA's), (117, 45480), (123, 45540), (205, 45717),

Gene: DirtMonster\_6 Start: 2758, Stop: 3150, Start Num: 75

Candidate Starts for DirtMonster\_6:

(Start: 75 @2758 has 57 MA's), (Start: 77 @2770 has 5 MA's), (Start: 96 @2818 has 1 MA's), (99, 2824), (118, 2887), (123, 2941), (152, 3019), (159, 3031), (160, 3034),

Gene: DoctorDiddles\_44 Start: 35192, Stop: 34773, Start Num: 76

Candidate Starts for DoctorDiddles\_44:

(63, 35213), (Start: 69 @35201 has 3 MA's), (Start: 76 @35192 has 30 MA's), (Start: 77 @35180 has 5 MA's), (123, 35006), (153, 34904),

Gene: Dorothy\_81 Start: 50224, Stop: 50574, Start Num: 71

Candidate Starts for Dorothy\_81:

(Start: 71 @50224 has 14 MA's), (Start: 77 @50239 has 5 MA's), (123, 50374), (205, 50551),

Gene: DrPhinkDaddy\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for DrPhinkDaddy\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Drago\_74 Start: 45321, Stop: 45749, Start Num: 74

Candidate Starts for Drago\_74:

(Start: 74 @45321 has 12 MA's), (Start: 77 @45336 has 5 MA's), (Start: 91 @45390 has 1 MA's), (117, 45483), (123, 45543), (205, 45720),

Gene: Drazdys\_8 Start: 2464, Stop: 2820, Start Num: 75

Candidate Starts for Drazdys\_8:

(Start: 75 @2464 has 57 MA's), (Start: 77 @2476 has 5 MA's), (86, 2503), (109, 2548), (123, 2611), (152, 2689), (159, 2701), (160, 2704),

Gene: Dreamboat\_79 Start: 46273, Stop: 45872, Start Num: 75

Candidate Starts for Dreamboat\_79:

(Start: 75 @46273 has 57 MA's), (123, 46081), (152, 46003), (159, 45991), (160, 45988), (205, 45895),

Gene: Dylan\_22 Start: 10677, Stop: 11069, Start Num: 70

Candidate Starts for Dylan\_22:

(Start: 70 @10677 has 2 MA's), (123, 10809), (145, 10893), (168, 10947), (179, 10971), (185, 10983), (190, 10989), (198, 11013), (200, 11028), (205, 11046),

Gene: ET08\_12 Start: 4991, Stop: 5341, Start Num: 72

Candidate Starts for ET08\_12:

(Start: 72 @4991 has 170 MA's), (Start: 77 @5006 has 5 MA's), (123, 5126), (152, 5204), (159, 5216), (160, 5219), (205, 5312),

Gene: ET08\_5 Start: 2600, Stop: 3040, Start Num: 76

Candidate Starts for ET08\_5:

(Start: 76 @2600 has 30 MA's), (Start: 77 @2612 has 5 MA's), (109, 2732), (123, 2822), (135, 2864), (184, 2960), (198, 2984),

Gene: EasyJones\_13 Start: 3951, Stop: 4316, Start Num: 72

Candidate Starts for EasyJones\_13:

(Start: 72 @3951 has 170 MA's), (Start: 77 @3966 has 5 MA's), (123, 4101), (152, 4179), (159, 4191), (160, 4194), (205, 4287),

Gene: EggyFarm\_8 Start: 2903, Stop: 3259, Start Num: 75



Candidate Starts for EggyFarm\_8:

(Start: 75 @2903 has 57 MA's), (Start: 77 @2915 has 5 MA's), (86, 2942), (109, 2987), (123, 3050), (152, 3128), (159, 3140), (160, 3143),

Gene: Eish\_82 Start: 49234, Stop: 49629, Start Num: 71

Candidate Starts for Eish\_82:

(Start: 71 @49234 has 14 MA's), (Start: 77 @49249 has 5 MA's), (Start: 96 @49297 has 1 MA's), (99, 49303), (118, 49366), (123, 49420), (152, 49498), (159, 49510), (160, 49513),

Gene: EmToTheThree\_17 Start: 6464, Stop: 6814, Start Num: 72

Candidate Starts for EmToTheThree\_17:

(Start: 72 @6464 has 170 MA's), (Start: 77 @6479 has 5 MA's), (123, 6599), (152, 6677), (159, 6689), (160, 6692), (205, 6785),

Gene: Emma\_82 Start: 47609, Stop: 47959, Start Num: 73

Candidate Starts for Emma\_82:

(37, 47513), (Start: 73 @47609 has 33 MA's), (Start: 77 @47624 has 5 MA's), (123, 47744),

Gene: EmmaElysia\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for EmmaElysia\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Enby\_78 Start: 45597, Stop: 46025, Start Num: 74

Candidate Starts for Enby\_78:

(Start: 74 @45597 has 12 MA's), (Start: 77 @45612 has 5 MA's), (Start: 91 @45666 has 1 MA's), (117, 45759), (123, 45819), (205, 45996),

Gene: Eradicator\_69 Start: 46041, Stop: 46469, Start Num: 74

Candidate Starts for Eradicator\_69:

(Start: 74 @46041 has 12 MA's), (Start: 77 @46056 has 5 MA's), (Start: 91 @46110 has 1 MA's), (117, 46203), (123, 46263), (205, 46440),

Gene: Erdmann\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Erdmann\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Erk16\_85 Start: 60039, Stop: 60434, Start Num: 72

Candidate Starts for Erk16\_85:

(30, 59916), (32, 59925), (Start: 72 @60039 has 170 MA's), (97, 60114), (119, 60186), (123, 60219), (129, 60255), (133, 60261), (202, 60393), (205, 60411),

Gene: ErnieJ\_17 Start: 5141, Stop: 5506, Start Num: 72

Candidate Starts for ErnieJ\_17:

(Start: 72 @5141 has 170 MA's), (Start: 77 @5156 has 5 MA's), (123, 5291), (152, 5369), (159, 5381), (160, 5384), (205, 5477),

Gene: Essence\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Essence\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Estave1\_91 Start: 53006, Stop: 53392, Start Num: 75  
Candidate Starts for Estave1\_91:  
(58, 52976), (62, 52985), (Start: 75 @53006 has 57 MA's), (123, 53192), (144, 53258), (204, 53366),

Gene: Eureka\_44 Start: 36100, Stop: 35735, Start Num: 91  
Candidate Starts for Eureka\_44:  
(87, 36112), (Start: 91 @36100 has 1 MA's), (Start: 95 @36091 has 2 MA's), (100, 36079), (123, 35959), (135, 35917), (184, 35821), (205, 35764),

Gene: Ewok\_14 Start: 5050, Stop: 5400, Start Num: 72  
Candidate Starts for Ewok\_14:  
(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Eyeball\_79 Start: 47899, Stop: 47528, Start Num: 75  
Candidate Starts for Eyeball\_79:  
(Start: 75 @47899 has 57 MA's), (Start: 77 @47887 has 5 MA's), (90, 47851), (105, 47809), (115, 47785), (123, 47743), (159, 47653), (160, 47650), (198, 47587), (205, 47551),

Gene: Fancypants\_92 Start: 52024, Stop: 52425, Start Num: 75  
Candidate Starts for Fancypants\_92:  
(3, 51730), (5, 51763), (16, 51850), (18, 51859), (26, 51883), (31, 51901), (58, 51994), (62, 52003), (Start: 75 @52024 has 57 MA's), (118, 52123), (123, 52156), (156, 52261), (169, 52297), (178, 52318), (198, 52357),

Gene: FeliMaine\_7 Start: 2581, Stop: 2958, Start Num: 72  
Candidate Starts for FeliMaine\_7:  
(Start: 72 @2581 has 170 MA's), (Start: 77 @2593 has 5 MA's), (123, 2749), (152, 2827), (159, 2839), (160, 2842),

Gene: Filuzino\_80 Start: 50124, Stop: 50459, Start Num: 73  
Candidate Starts for Filuzino\_80:  
(6, 49893), (10, 49920), (13, 49932), (14, 49938), (15, 49944), (25, 49980), (Start: 73 @50124 has 33 MA's), (Start: 77 @50139 has 5 MA's), (123, 50259), (166, 50361), (187, 50382), (198, 50406),

Gene: Firehouse51\_75 Start: 49196, Stop: 49573, Start Num: 69  
Candidate Starts for Firehouse51\_75:  
(36, 49100), (Start: 69 @49196 has 3 MA's), (Start: 77 @49211 has 5 MA's), (123, 49346), (128, 49379), (136, 49400), (176, 49466), (205, 49550),

Gene: Flabslab\_13 Start: 3966, Stop: 4331, Start Num: 72  
Candidate Starts for Flabslab\_13:  
(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Fludd\_13 Start: 3952, Stop: 4317, Start Num: 72  
Candidate Starts for Fludd\_13:  
(Start: 72 @3952 has 170 MA's), (Start: 77 @3967 has 5 MA's), (123, 4102), (152, 4180), (159, 4192), (160, 4195), (205, 4288),

Gene: FoxtrotP1\_15 Start: 5609, Stop: 5959, Start Num: 72  
Candidate Starts for FoxtrotP1\_15:

(Start: 72 @5609 has 170 MA's), (Start: 77 @5624 has 5 MA's), (123, 5744), (152, 5822), (159, 5834), (160, 5837), (205, 5930),

Gene: FrayBell\_8 Start: 2465, Stop: 2821, Start Num: 75

Candidate Starts for FrayBell\_8:

(Start: 75 @2465 has 57 MA's), (Start: 77 @2477 has 5 MA's), (86, 2504), (109, 2549), (123, 2612), (152, 2690), (159, 2702), (160, 2705),

Gene: FreddyB\_88 Start: 49777, Stop: 50202, Start Num: 50

Candidate Starts for FreddyB\_88:

(Start: 50 @49777 has 13 MA's), (54, 49792), (123, 49972), (154, 50056), (159, 50062), (160, 50065), (198, 50149),

Gene: Fruitloop\_74 Start: 47706, Stop: 48077, Start Num: 71

Candidate Starts for Fruitloop\_74:

(33, 47610), (Start: 71 @47706 has 14 MA's), (Start: 77 @47721 has 5 MA's), (123, 47841), (136, 47895), (138, 47904), (160, 47952), (163, 47958), (184, 47994), (195, 48012), (205, 48048),

Gene: FudgeTart\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for FudgeTart\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Fushigi\_75 Start: 45357, Stop: 44953, Start Num: 76

Candidate Starts for Fushigi\_75:

(Start: 76 @45357 has 30 MA's), (123, 45159), (139, 45108), (149, 45084), (170, 45057), (205, 44976),

Gene: Gabriel\_14 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Gabriel\_14:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Gaia\_50 Start: 37260, Stop: 36913, Start Num: 80

Candidate Starts for Gaia\_50:

(Start: 73 @37293 has 33 MA's), (Start: 80 @37260 has 2 MA's), (122, 37140), (125, 37122),

Gene: Gamgam\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Gamgam\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Gattaca\_9 Start: 2524, Stop: 2901, Start Num: 69

Candidate Starts for Gattaca\_9:

(Start: 69 @2524 has 3 MA's), (Start: 77 @2539 has 5 MA's), (123, 2674), (128, 2707), (136, 2728), (176, 2794), (205, 2878),

Gene: Ghost\_14 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Ghost\_14:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Giraffe\_53 Start: 47326, Stop: 46979, Start Num: 75

Candidate Starts for Giraffe\_53:

(Start: 75 @47326 has 57 MA's), (Start: 77 @47314 has 5 MA's), (123, 47194), (129, 47158), (133, 47152), (202, 47020), (205, 47002),

Gene: Girr\_75 Start: 48247, Stop: 48597, Start Num: 73

Candidate Starts for Girr\_75:

(Start: 73 @48247 has 33 MA's), (Start: 77 @48262 has 5 MA's), (123, 48382),

Gene: Giuseppe\_86 Start: 59752, Stop: 60147, Start Num: 72

Candidate Starts for Giuseppe\_86:

(30, 59629), (Start: 72 @59752 has 170 MA's), (97, 59827), (119, 59899), (123, 59932), (129, 59968), (133, 59974), (202, 60106), (205, 60124),

Gene: Gizmo\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Gizmo\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Goku\_44 Start: 35820, Stop: 35464, Start Num: 95

Candidate Starts for Goku\_44:

(87, 35841), (Start: 91 @35829 has 1 MA's), (Start: 95 @35820 has 2 MA's), (100, 35808), (123, 35688), (135, 35646), (184, 35550), (205, 35493),

Gene: Gonephishing\_73 Start: 48084, Stop: 47683, Start Num: 75

Candidate Starts for Gonephishing\_73:

(Start: 75 @48084 has 57 MA's), (Start: 77 @48072 has 5 MA's), (104, 47988), (112, 47970), (123, 47892), (152, 47814), (159, 47802), (160, 47799), (205, 47706),

Gene: Gorge\_80 Start: 49405, Stop: 49830, Start Num: 50

Candidate Starts for Gorge\_80:

(Start: 50 @49405 has 13 MA's), (54, 49420), (123, 49600), (154, 49684), (159, 49690), (160, 49693), (198, 49777),

Gene: Grand2040\_52 Start: 47320, Stop: 46973, Start Num: 75

Candidate Starts for Grand2040\_52:

(Start: 75 @47320 has 57 MA's), (Start: 77 @47308 has 5 MA's), (123, 47188), (129, 47152), (133, 47146), (202, 47014), (205, 46996),

Gene: Grasshills\_8 Start: 2903, Stop: 3259, Start Num: 75

Candidate Starts for Grasshills\_8:

(Start: 75 @2903 has 57 MA's), (Start: 77 @2915 has 5 MA's), (86, 2942), (109, 2987), (123, 3050), (152, 3128), (159, 3140), (160, 3143),

Gene: Grungle\_6 Start: 1770, Stop: 2210, Start Num: 76

Candidate Starts for Grungle\_6:

(Start: 76 @1770 has 30 MA's), (Start: 77 @1782 has 5 MA's), (109, 1902), (123, 1992), (135, 2034), (184, 2130), (198, 2154),

Gene: Guwapp\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Guwapp\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Gyzlar\_56 Start: 38713, Stop: 38327, Start Num: 75

Candidate Starts for Gyzlar\_56:

(Start: 75 @38713 has 57 MA's), (Start: 77 @38701 has 5 MA's), (123, 38581), (141, 38509), (150, 38485), (194, 38413), (207, 38350),

Gene: Halldule\_6 Start: 1766, Stop: 2206, Start Num: 76

Candidate Starts for Halldule\_6:

(Start: 76 @1766 has 30 MA's), (Start: 77 @1778 has 5 MA's), (109, 1898), (123, 1988), (124, 1991), (135, 2030), (184, 2126), (198, 2150),

Gene: Hannaconda\_73 Start: 46951, Stop: 46607, Start Num: 75

Candidate Starts for Hannaconda\_73:

(Start: 75 @46951 has 57 MA's), (Start: 77 @46939 has 5 MA's), (123, 46819), (159, 46729), (160, 46726), (205, 46633),

Gene: Harley\_88 Start: 50437, Stop: 50829, Start Num: 75

Candidate Starts for Harley\_88:

(3, 50143), (5, 50176), (16, 50263), (18, 50272), (26, 50296), (31, 50314), (58, 50407), (62, 50416), (Start: 75 @50437 has 57 MA's), (123, 50623), (131, 50665),

Gene: Homines\_53 Start: 37028, Stop: 36645, Start Num: 75

Candidate Starts for Homines\_53:

(9, 37238), (11, 37229), (48, 37085), (Start: 50 @37082 has 13 MA's), (Start: 75 @37028 has 57 MA's), (Start: 77 @37016 has 5 MA's), (Start: 96 @36968 has 1 MA's), (99, 36962), (118, 36899), (123, 36845), (175, 36743), (189, 36722), (198, 36698),

Gene: Huphlepuuff\_7 Start: 2307, Stop: 2687, Start Num: 72

Candidate Starts for Huphlepuuff\_7:

(Start: 72 @2307 has 170 MA's), (Start: 77 @2322 has 5 MA's), (123, 2478), (152, 2556), (159, 2568), (160, 2571),

Gene: HyRo\_11 Start: 4892, Stop: 5257, Start Num: 72

Candidate Starts for HyRo\_11:

(Start: 72 @4892 has 170 MA's), (Start: 77 @4907 has 5 MA's), (123, 5042), (152, 5120), (159, 5132), (160, 5135), (205, 5228),

Gene: I3\_7 Start: 2438, Stop: 2830, Start Num: 76

Candidate Starts for I3\_7:

(Start: 76 @2438 has 30 MA's), (89, 2498), (94, 2504), (113, 2564), (116, 2567), (123, 2621), (153, 2723),

Gene: IMpilo\_74 Start: 45725, Stop: 46135, Start Num: 73

Candidate Starts for IMpilo\_74:

(Start: 73 @45725 has 33 MA's), (Start: 77 @45740 has 5 MA's), (92, 45800), (120, 45872), (123, 45905), (154, 46001), (194, 46067), (200, 46091), (205, 46112),

Gene: IbOuu\_77 Start: 46622, Stop: 47065, Start Num: 72

Candidate Starts for IbOuu\_77:

(Start: 72 @46622 has 170 MA's), (Start: 77 @46637 has 5 MA's), (123, 46817), (149, 46904), (152, 46910), (171, 46934), (205, 47036),

Gene: Ibhubesi\_77 Start: 46004, Stop: 46342, Start Num: 73

Candidate Starts for Ibhubesi\_77:

(Start: 73 @46004 has 33 MA's), (Start: 77 @46019 has 5 MA's), (85, 46046), (123, 46139), (132, 46181), (165, 46247),

Gene: IkeLoa\_6 Start: 2612, Stop: 3052, Start Num: 76

Candidate Starts for IkeLoa\_6:

(Start: 76 @2612 has 30 MA's), (Start: 77 @2624 has 5 MA's), (109, 2744), (123, 2834), (135, 2876), (184, 2972), (198, 2996),

Gene: InigoMontoya\_14 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for InigoMontoya\_14:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: InterFolia\_8 Start: 2464, Stop: 2820, Start Num: 75

Candidate Starts for InterFolia\_8:

(Start: 75 @2464 has 57 MA's), (Start: 77 @2476 has 5 MA's), (86, 2503), (109, 2548), (123, 2611), (152, 2689), (159, 2701), (160, 2704),

Gene: Inventum\_78 Start: 48409, Stop: 48759, Start Num: 71

Candidate Starts for Inventum\_78:

(Start: 71 @48409 has 14 MA's), (Start: 77 @48424 has 5 MA's), (123, 48559), (205, 48736),

Gene: Issimir\_14 Start: 5044, Stop: 5394, Start Num: 72

Candidate Starts for Issimir\_14:

(Start: 72 @5044 has 170 MA's), (Start: 77 @5059 has 5 MA's), (123, 5179), (152, 5257), (159, 5269), (160, 5272), (205, 5365),

Gene: Izajani\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Izajani\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: JPickles\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for JPickles\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Jabbawokkie\_88 Start: 46909, Stop: 47265, Start Num: 72

Candidate Starts for Jabbawokkie\_88:

(Start: 72 @46909 has 170 MA's), (Start: 77 @46924 has 5 MA's), (123, 47044), (201, 47215), (205, 47236),

Gene: James\_80 Start: 49880, Stop: 50260, Start Num: 72

Candidate Starts for James\_80:

(Start: 72 @49880 has 170 MA's), (Start: 77 @49895 has 5 MA's), (123, 50051), (152, 50129), (159, 50141), (160, 50144), (205, 50237),

Gene: Janiyra\_13 Start: 3949, Stop: 4314, Start Num: 72

Candidate Starts for Janiyra\_13:

(Start: 72 @3949 has 170 MA's), (Start: 77 @3964 has 5 MA's), (123, 4099), (152, 4177), (159, 4189), (160, 4192), (205, 4285),

Gene: Jarcob\_79 Start: 49477, Stop: 49857, Start Num: 72

Candidate Starts for Jacob\_79:

(Start: 72 @49477 has 170 MA's), (Start: 77 @49492 has 5 MA's), (123, 49648), (152, 49726), (159, 49738), (160, 49741), (205, 49834),

Gene: Jasper\_78 Start: 46159, Stop: 45758, Start Num: 75

Candidate Starts for Jasper\_78:

(Start: 75 @46159 has 57 MA's), (123, 45967), (152, 45889), (159, 45877), (160, 45874), (205, 45781),

Gene: JayJay\_6 Start: 1993, Stop: 2349, Start Num: 75

Candidate Starts for JayJay\_6:

(Start: 52 @1942 has 2 MA's), (Start: 75 @1993 has 57 MA's), (Start: 77 @2005 has 5 MA's), (86, 2032), (109, 2077), (123, 2140), (152, 2218), (159, 2230), (160, 2233),

Gene: Jaygup\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Jaygup\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Jedediah\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Jedediah\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Jemmno\_12 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Jemmno\_12:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Jessibeth14\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Jessibeth14\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Jinglebell\_93 Start: 50985, Stop: 51386, Start Num: 56

Candidate Starts for Jinglebell\_93:

(19, 50862), (44, 50955), (47, 50964), (Start: 56 @50985 has 8 MA's), (123, 51153), (126, 51180), (131, 51198), (140, 51225), (177, 51294), (178, 51297), (198, 51333),

Gene: JoieB\_8 Start: 2529, Stop: 2909, Start Num: 72

Candidate Starts for JoieB\_8:

(Start: 72 @2529 has 170 MA's), (Start: 77 @2544 has 5 MA's), (123, 2700), (152, 2778), (159, 2790), (160, 2793),

Gene: Jorgensen\_64 Start: 41112, Stop: 40717, Start Num: 76

Candidate Starts for Jorgensen\_64:

(12, 41313), (49, 41169), (51, 41166), (Start: 76 @41112 has 30 MA's), (Start: 77 @41100 has 5 MA's), (123, 40944), (153, 40842),

Gene: Juniper1\_77 Start: 47775, Stop: 48149, Start Num: 67

Candidate Starts for Juniper1\_77:

(Start: 67 @47775 has 1 MA's), (Start: 77 @47799 has 5 MA's), (123, 47934), (129, 47970), (133, 47976), (202, 48108), (205, 48126),

Gene: JustHall\_13 Start: 4965, Stop: 5330, Start Num: 72

Candidate Starts for JustHall\_13:

(Start: 72 @4965 has 170 MA's), (Start: 77 @4980 has 5 MA's), (123, 5115), (152, 5193), (159, 5205), (160, 5208), (205, 5301),

Gene: KBG\_62 Start: 42879, Stop: 42511, Start Num: 75

Candidate Starts for KBG\_62:

(45, 42936), (46, 42933), (Start: 75 @42879 has 57 MA's), (Start: 77 @42867 has 5 MA's), (123, 42732), (138, 42672), (155, 42636), (182, 42588), (183, 42585), (206, 42522),

Gene: KSSJEB\_78 Start: 46842, Stop: 46471, Start Num: 75

Candidate Starts for KSSJEB\_78:

(Start: 75 @46842 has 57 MA's), (Start: 77 @46830 has 5 MA's), (90, 46794), (105, 46752), (115, 46728), (123, 46686), (159, 46596), (160, 46593), (198, 46530), (205, 46494),

Gene: Kamryn\_6 Start: 1771, Stop: 2151, Start Num: 77

Candidate Starts for Kamryn\_6:

(Start: 75 @1759 has 57 MA's), (Start: 77 @1771 has 5 MA's), (Start: 96 @1819 has 1 MA's), (99, 1825), (118, 1888), (123, 1942), (152, 2020), (159, 2032), (160, 2035),

Gene: KashFlow\_71 Start: 46755, Stop: 46327, Start Num: 74

Candidate Starts for KashFlow\_71:

(Start: 74 @46755 has 12 MA's), (Start: 77 @46740 has 5 MA's), (Start: 91 @46686 has 1 MA's), (117, 46593), (123, 46533), (205, 46356),

Gene: KashFlow\_72 Start: 47258, Stop: 46752, Start Num: 39

Candidate Starts for KashFlow\_72:

(Start: 39 @47258 has 4 MA's), (121, 47087), (123, 47072), (126, 47045), (131, 47027), (140, 47000), (177, 46931), (178, 46928), (198, 46892), (210, 46811), (211, 46805), (212, 46802),

Gene: Kboogie\_13 Start: 3968, Stop: 4333, Start Num: 72

Candidate Starts for Kboogie\_13:

(Start: 72 @3968 has 170 MA's), (Start: 77 @3983 has 5 MA's), (123, 4118), (152, 4196), (159, 4208), (160, 4211), (205, 4304),

Gene: Khaleesi\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Khaleesi\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Kingsley\_82 Start: 50469, Stop: 50837, Start Num: 73

Candidate Starts for Kingsley\_82:

(Start: 73 @50469 has 33 MA's), (Start: 77 @50484 has 5 MA's), (123, 50604), (145, 50673), (157, 50694), (187, 50754), (205, 50811),

Gene: Klein\_78 Start: 51350, Stop: 50925, Start Num: 76

Candidate Starts for Klein\_78:

(Start: 76 @51350 has 30 MA's), (Start: 77 @51338 has 5 MA's), (Start: 91 @51284 has 1 MA's), (117, 51191), (123, 51131), (205, 50954),

Gene: Koella\_70 Start: 44029, Stop: 44454, Start Num: 50

Candidate Starts for Koella\_70:



(Start: 50 @44029 has 13 MA's), (54, 44044), (123, 44224), (154, 44308), (159, 44314), (160, 44317), (198, 44401),

Gene: Koella\_74 Start: 45585, Stop: 45968, Start Num: 75

Candidate Starts for Koella\_74:

(16, 45411), (18, 45420), (26, 45444), (31, 45462), (58, 45555), (62, 45564), (Start: 75 @45585 has 57 MA's), (123, 45771), (127, 45801), (144, 45837), (188, 45888),

Gene: Koguma\_6 Start: 1766, Stop: 2206, Start Num: 76

Candidate Starts for Koguma\_6:

(Start: 76 @1766 has 30 MA's), (Start: 77 @1778 has 5 MA's), (109, 1898), (123, 1988), (135, 2030), (184, 2126), (198, 2150),

Gene: Krakatau\_74 Start: 44687, Stop: 45067, Start Num: 72

Candidate Starts for Krakatau\_74:

(Start: 72 @44687 has 170 MA's), (Start: 77 @44702 has 5 MA's), (123, 44822), (149, 44909), (152, 44915), (171, 44939), (199, 45002), (205, 45038),

Gene: KristaRAM\_77 Start: 47329, Stop: 47721, Start Num: 72

Candidate Starts for KristaRAM\_77:

(Start: 72 @47329 has 170 MA's), (Start: 77 @47344 has 5 MA's), (123, 47479), (149, 47566), (152, 47572), (171, 47596), (199, 47659), (205, 47698),

Gene: Kugel\_63 Start: 41957, Stop: 41598, Start Num: 75

Candidate Starts for Kugel\_63:

(11, 42158), (48, 42014), (Start: 50 @42011 has 13 MA's), (Start: 75 @41957 has 57 MA's), (123, 41825), (128, 41792), (136, 41771), (176, 41705), (205, 41621),

Gene: Kykar\_79 Start: 47679, Stop: 47278, Start Num: 76

Candidate Starts for Kykar\_79:

(Start: 76 @47679 has 30 MA's), (Start: 77 @47667 has 5 MA's), (121, 47508), (123, 47493), (149, 47412), (170, 47385),

Gene: LRRHood\_6 Start: 2751, Stop: 3191, Start Num: 76

Candidate Starts for LRRHood\_6:

(Start: 76 @2751 has 30 MA's), (Start: 77 @2763 has 5 MA's), (109, 2883), (123, 2973), (135, 3015), (184, 3111), (198, 3135),

Gene: LRRHood\_14 Start: 5702, Stop: 6052, Start Num: 72

Candidate Starts for LRRHood\_14:

(Start: 72 @5702 has 170 MA's), (Start: 77 @5717 has 5 MA's), (123, 5837), (152, 5915), (159, 5927), (160, 5930), (205, 6023),

Gene: LastJedi\_70 Start: 46604, Stop: 47029, Start Num: 50

Candidate Starts for LastJedi\_70:

(Start: 50 @46604 has 13 MA's), (54, 46619), (123, 46799), (154, 46883), (159, 46889), (160, 46892), (198, 46976),

Gene: Latch\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Latch\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: LeiMonet\_54 Start: 47306, Stop: 46959, Start Num: 75

Candidate Starts for LeiMonet\_54:

(Start: 75 @47306 has 57 MA's), (Start: 77 @47294 has 5 MA's), (123, 47174), (129, 47138), (133, 47132), (202, 47000), (205, 46982),

Gene: Leozinho\_78 Start: 46065, Stop: 46445, Start Num: 73

Candidate Starts for Leozinho\_78:

(Start: 73 @46065 has 33 MA's), (Start: 77 @46080 has 5 MA's), (92, 46140), (120, 46212), (123, 46245), (205, 46422),

Gene: LifeSavor\_14 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for LifeSavor\_14:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Lilbit\_8 Start: 2581, Stop: 2958, Start Num: 72

Candidate Starts for Lilbit\_8:

(Start: 72 @2581 has 170 MA's), (Start: 77 @2593 has 5 MA's), (123, 2749), (152, 2827), (159, 2839), (160, 2842),

Gene: LinStu\_7 Start: 2992, Stop: 3348, Start Num: 75

Candidate Starts for LinStu\_7:

(Start: 52 @2941 has 2 MA's), (Start: 75 @2992 has 57 MA's), (Start: 77 @3004 has 5 MA's), (86, 3031), (109, 3076), (123, 3139), (152, 3217), (159, 3229), (160, 3232),

Gene: LittleE\_79 Start: 51011, Stop: 50637, Start Num: 77

Candidate Starts for LittleE\_79:

(Start: 75 @51023 has 57 MA's), (Start: 77 @51011 has 5 MA's), (123, 50891), (141, 50819), (150, 50795), (194, 50723),

Gene: LittleLaf\_7 Start: 2307, Stop: 2687, Start Num: 72

Candidate Starts for LittleLaf\_7:

(Start: 72 @2307 has 170 MA's), (Start: 77 @2322 has 5 MA's), (123, 2478), (152, 2556), (159, 2568), (160, 2571),

Gene: Littleton\_14 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Littleton\_14:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Lizziana\_83 Start: 49853, Stop: 50278, Start Num: 50

Candidate Starts for Lizziana\_83:

(Start: 50 @49853 has 13 MA's), (54, 49868), (123, 50048), (154, 50132), (159, 50138), (160, 50141), (198, 50225),

Gene: Llama\_93 Start: 50841, Stop: 51242, Start Num: 56

Candidate Starts for Llama\_93:

(19, 50718), (44, 50811), (47, 50820), (Start: 56 @50841 has 8 MA's), (123, 51009), (126, 51036), (131, 51054), (140, 51081), (177, 51150), (178, 51153), (198, 51189),

Gene: Llij\_73 Start: 45475, Stop: 45903, Start Num: 74

Candidate Starts for Llij\_73:

(Start: 74 @45475 has 12 MA's), (Start: 77 @45490 has 5 MA's), (Start: 91 @45544 has 1 MA's),  
(117, 45637), (123, 45697), (205, 45874),

Gene: Loanshark\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Loanshark\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275),  
(160, 5278), (205, 5371),

Gene: LolaVinca\_8 Start: 2464, Stop: 2820, Start Num: 75

Candidate Starts for LolaVinca\_8:

(Start: 75 @2464 has 57 MA's), (Start: 77 @2476 has 5 MA's), (86, 2503), (109, 2548), (123, 2611),  
(152, 2689), (159, 2701), (160, 2704),

Gene: Lorde\_77 Start: 44762, Stop: 45190, Start Num: 74

Candidate Starts for Lorde\_77:

(Start: 74 @44762 has 12 MA's), (Start: 77 @44777 has 5 MA's), (Start: 91 @44831 has 1 MA's),  
(117, 44924), (123, 44984), (205, 45161),

Gene: Lucky2013\_71 Start: 46711, Stop: 46307, Start Num: 77

Candidate Starts for Lucky2013\_71:

(Start: 73 @46723 has 33 MA's), (Start: 77 @46711 has 5 MA's), (101, 46627), (110, 46609), (123,  
46531), (127, 46501), (139, 46462), (141, 46459),

Gene: Lucky2013\_77 Start: 48582, Stop: 48184, Start Num: 52

Candidate Starts for Lucky2013\_77:

(Start: 52 @48582 has 2 MA's), (54, 48570), (123, 48414), (154, 48330), (159, 48324), (160, 48321),  
(198, 48237),

Gene: Lukilu\_6 Start: 2765, Stop: 3205, Start Num: 76

Candidate Starts for Lukilu\_6:

(Start: 76 @2765 has 30 MA's), (Start: 77 @2777 has 5 MA's), (109, 2897), (123, 2987), (135, 3029),  
(184, 3125), (198, 3149),

Gene: LunaBlu\_82 Start: 48900, Stop: 49268, Start Num: 73

Candidate Starts for LunaBlu\_82:

(Start: 73 @48900 has 33 MA's), (Start: 77 @48915 has 5 MA's), (123, 49050), (127, 49080), (139,  
49119), (141, 49122), (204, 49245),

Gene: Maby2021\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Maby2021\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275),  
(160, 5278), (205, 5371),

Gene: Manda\_46 Start: 36625, Stop: 36245, Start Num: 71

Candidate Starts for Manda\_46:

(59, 36646), (66, 36634), (Start: 71 @36625 has 14 MA's), (Start: 77 @36613 has 5 MA's), (123,  
36493), (149, 36406), (152, 36400), (199, 36313), (205, 36274),

Gene: Mangeria\_6 Start: 1759, Stop: 2133, Start Num: 76

Candidate Starts for Mangeria\_6:

(Start: 76 @1759 has 30 MA's), (82, 1798), (110, 1843), (123, 1906), (153, 2008),

Gene: Mantra\_76 Start: 47820, Stop: 48170, Start Num: 73

Candidate Starts for Mantra\_76:

(37, 47724), (Start: 73 @47820 has 33 MA's), (Start: 77 @47835 has 5 MA's), (123, 47955),

Gene: Marker\_91 Start: 50605, Stop: 50967, Start Num: 75

Candidate Starts for Marker\_91:

(16, 50431), (18, 50440), (23, 50452), (26, 50464), (58, 50575), (62, 50584), (Start: 75 @50605 has 57 MA's), (Start: 77 @50617 has 5 MA's), (101, 50695), (118, 50719), (123, 50761),

Gene: Martik\_80 Start: 50276, Stop: 50662, Start Num: 73

Candidate Starts for Martik\_80:

(Start: 73 @50276 has 33 MA's), (Start: 77 @50291 has 5 MA's), (92, 50351), (120, 50423), (123, 50456), (205, 50633),

Gene: Maru\_52 Start: 47257, Stop: 46910, Start Num: 75

Candidate Starts for Maru\_52:

(Start: 75 @47257 has 57 MA's), (Start: 77 @47245 has 5 MA's), (123, 47125), (129, 47089), (133, 47083), (202, 46951), (205, 46933),

Gene: Matsumoto\_12 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Matsumoto\_12:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: McGee\_13 Start: 3968, Stop: 4333, Start Num: 72

Candidate Starts for McGee\_13:

(Start: 72 @3968 has 170 MA's), (Start: 77 @3983 has 5 MA's), (123, 4118), (152, 4196), (159, 4208), (160, 4211), (205, 4304),

Gene: McWolfish\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for McWolfish\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Megamind\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Megamind\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Melpomini\_13 Start: 3949, Stop: 4314, Start Num: 72

Candidate Starts for Melpomini\_13:

(Start: 72 @3949 has 170 MA's), (Start: 77 @3964 has 5 MA's), (123, 4099), (152, 4177), (159, 4189), (160, 4192), (205, 4285),

Gene: MikeLiesIn\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for MikeLiesIn\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Mikro\_6 Start: 2758, Stop: 3150, Start Num: 75

Candidate Starts for Mikro\_6:

(Start: 75 @2758 has 57 MA's), (Start: 77 @2770 has 5 MA's), (Start: 96 @2818 has 1 MA's), (99, 2824), (118, 2887), (123, 2941), (152, 3019), (159, 3031), (160, 3034),

Gene: MinionDave\_75 Start: 47890, Stop: 48285, Start Num: 75

Candidate Starts for MinionDave\_75:

(Start: 75 @47890 has 57 MA's), (Start: 77 @47902 has 5 MA's), (123, 48037), (141, 48115), (164, 48166), (181, 48190), (193, 48208), (197, 48223), (205, 48262),

Gene: Minnie\_76 Start: 50008, Stop: 50400, Start Num: 72

Candidate Starts for Minnie\_76:

(Start: 72 @50008 has 170 MA's), (Start: 77 @50023 has 5 MA's), (124, 50161), (149, 50245), (152, 50251), (171, 50275), (199, 50338), (205, 50377),

Gene: MisterCuddles\_76 Start: 48247, Stop: 48597, Start Num: 73

Candidate Starts for MisterCuddles\_76:

(Start: 73 @48247 has 33 MA's), (Start: 77 @48262 has 5 MA's), (123, 48382),

Gene: MoMoMixon\_5 Start: 1605, Stop: 1997, Start Num: 75

Candidate Starts for MoMoMixon\_5:

(Start: 75 @1605 has 57 MA's), (Start: 77 @1617 has 5 MA's), (Start: 96 @1665 has 1 MA's), (99, 1671), (118, 1734), (123, 1788), (152, 1866), (159, 1878), (160, 1881),

Gene: Modragons\_91 Start: 50829, Stop: 51230, Start Num: 56

Candidate Starts for Modragons\_91:

(19, 50706), (44, 50799), (47, 50808), (Start: 56 @50829 has 8 MA's), (123, 50997), (126, 51024), (131, 51042), (140, 51069), (177, 51138), (178, 51141), (198, 51177),

Gene: Momo\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Momo\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Mopey\_86 Start: 59779, Stop: 60174, Start Num: 72

Candidate Starts for Mopey\_86:

(30, 59656), (Start: 72 @59779 has 170 MA's), (97, 59854), (119, 59926), (123, 59959), (129, 59995), (133, 60001), (202, 60133), (205, 60151),

Gene: Morizzled23\_13 Start: 3949, Stop: 4314, Start Num: 72

Candidate Starts for Morizzled23\_13:

(Start: 72 @3949 has 170 MA's), (Start: 77 @3964 has 5 MA's), (123, 4099), (152, 4177), (159, 4189), (160, 4192), (205, 4285),

Gene: MosMoris\_9 Start: 2524, Stop: 2901, Start Num: 69

Candidate Starts for MosMoris\_9:

(Start: 69 @2524 has 3 MA's), (Start: 77 @2539 has 5 MA's), (123, 2674), (128, 2707), (136, 2728), (176, 2794), (205, 2878),

Gene: Mova\_78 Start: 47116, Stop: 47487, Start Num: 73

Candidate Starts for Mova\_78:

(Start: 73 @47116 has 33 MA's), (Start: 77 @47131 has 5 MA's), (123, 47251), (126, 47278), (131, 47296), (140, 47323), (177, 47392), (178, 47395), (198, 47431),

Gene: Ms6\_78 Start: 44647, Stop: 45045, Start Num: 72

Candidate Starts for Ms6\_78:

(42, 44581), (46, 44593), (Start: 72 @44647 has 170 MA's), (111, 44740), (149, 44887), (152, 44893), (171, 44917), (205, 45016),

Gene: Naija\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Naija\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Napoleon13\_13 Start: 3968, Stop: 4333, Start Num: 72

Candidate Starts for Napoleon13\_13:

(Start: 72 @3968 has 170 MA's), (Start: 77 @3983 has 5 MA's), (123, 4118), (152, 4196), (159, 4208), (160, 4211), (205, 4304),

Gene: Nappy\_6 Start: 1987, Stop: 2343, Start Num: 75

Candidate Starts for Nappy\_6:

(Start: 75 @1987 has 57 MA's), (86, 2026), (109, 2071), (123, 2134), (152, 2212), (159, 2224), (160, 2227),

Gene: Nebkiss\_54 Start: 36961, Stop: 36614, Start Num: 80

Candidate Starts for Nebkiss\_54:

(Start: 73 @36994 has 33 MA's), (Start: 80 @36961 has 2 MA's), (122, 36841), (125, 36823),

Gene: NedWong\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for NedWong\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Ngannou\_13 Start: 3949, Stop: 4314, Start Num: 72

Candidate Starts for Ngannou\_13:

(Start: 72 @3949 has 170 MA's), (Start: 77 @3964 has 5 MA's), (123, 4099), (152, 4177), (159, 4189), (160, 4192), (205, 4285),

Gene: Nidhogg\_5 Start: 1605, Stop: 1997, Start Num: 75

Candidate Starts for Nidhogg\_5:

(Start: 75 @1605 has 57 MA's), (Start: 77 @1617 has 5 MA's), (Start: 96 @1665 has 1 MA's), (99, 1671), (118, 1734), (123, 1788), (152, 1866), (159, 1878), (160, 1881),

Gene: Nitzel\_73 Start: 45555, Stop: 45947, Start Num: 72

Candidate Starts for Nitzel\_73:

(Start: 72 @45555 has 170 MA's), (Start: 77 @45570 has 5 MA's), (123, 45705), (149, 45792), (152, 45798), (171, 45822), (199, 45885), (205, 45924),

Gene: NoodleTree\_6 Start: 1759, Stop: 2151, Start Num: 75

Candidate Starts for NoodleTree\_6:

(Start: 75 @1759 has 57 MA's), (Start: 77 @1771 has 5 MA's), (Start: 96 @1819 has 1 MA's), (99, 1825), (118, 1888), (123, 1942), (152, 2020), (159, 2032), (160, 2035),

Gene: Norm\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Norm\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: NormanBulbieJr\_75 Start: 48043, Stop: 48468, Start Num: 50

Candidate Starts for NormanBulbieJr\_75:

(Start: 50 @48043 has 13 MA's), (54, 48058), (123, 48238), (154, 48322), (159, 48328), (160, 48331), (198, 48415),

Gene: NormanBulbieJr\_80 Start: 49599, Stop: 49982, Start Num: 75

Candidate Starts for NormanBulbieJr\_80:

(16, 49425), (18, 49434), (26, 49458), (31, 49476), (58, 49569), (62, 49578), (Start: 75 @49599 has 57 MA's), (123, 49785), (127, 49815), (144, 49851), (188, 49902),

Gene: NuevoMundo\_7 Start: 2137, Stop: 2493, Start Num: 75

Candidate Starts for NuevoMundo\_7:

(Start: 75 @2137 has 57 MA's), (Start: 77 @2149 has 5 MA's), (86, 2176), (109, 2221), (123, 2284), (152, 2362), (159, 2374), (160, 2377),

Gene: Ochi17\_92 Start: 50436, Stop: 50837, Start Num: 56

Candidate Starts for Ochi17\_92:

(19, 50313), (44, 50406), (47, 50415), (Start: 56 @50436 has 8 MA's), (123, 50604), (126, 50631), (131, 50649), (140, 50676), (177, 50745), (178, 50748), (198, 50784),

Gene: OfUltron\_94 Start: 50985, Stop: 51386, Start Num: 56

Candidate Starts for OfUltron\_94:

(19, 50862), (44, 50955), (47, 50964), (Start: 56 @50985 has 8 MA's), (123, 51153), (126, 51180), (131, 51198), (140, 51225), (177, 51294), (178, 51297), (198, 51333),

Gene: Oksu\_89 Start: 51566, Stop: 51967, Start Num: 56

Candidate Starts for Oksu\_89:

(8, 51392), (10, 51401), (15, 51425), (44, 51536), (47, 51545), (Start: 56 @51566 has 8 MA's), (123, 51734), (126, 51761), (131, 51779), (140, 51806), (177, 51875), (178, 51878), (198, 51914),

Gene: OlympiaSaint\_79 Start: 48822, Stop: 49202, Start Num: 72

Candidate Starts for OlympiaSaint\_79:

(Start: 72 @48822 has 170 MA's), (Start: 77 @48837 has 5 MA's), (123, 48993), (152, 49071), (159, 49083), (160, 49086), (205, 49179),

Gene: Ovechkin\_81 Start: 48812, Stop: 49225, Start Num: 73

Candidate Starts for Ovechkin\_81:

(Start: 73 @48812 has 33 MA's), (Start: 77 @48827 has 5 MA's), (92, 48887), (120, 48959), (123, 48992), (154, 49088), (194, 49154), (200, 49178),

Gene: PLOT\_85 Start: 59930, Stop: 60325, Start Num: 72

Candidate Starts for PLOT\_85:

(30, 59807), (Start: 72 @59930 has 170 MA's), (97, 60005), (119, 60077), (123, 60110), (129, 60146), (133, 60152), (202, 60284), (205, 60302),

Gene: PMC\_74 Start: 46932, Stop: 47360, Start Num: 74

Candidate Starts for PMC\_74:

(Start: 74 @46932 has 12 MA's), (Start: 77 @46947 has 5 MA's), (Start: 91 @47001 has 1 MA's), (117, 47094), (123, 47154), (205, 47331),

Gene: ParkTD\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for ParkTD\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Pat3\_42 Start: 34357, Stop: 33938, Start Num: 76

Candidate Starts for Pat3\_42:

(63, 34378), (Start: 69 @34366 has 3 MA's), (Start: 76 @34357 has 30 MA's), (Start: 77 @34345 has 5 MA's), (123, 34171), (153, 34069),

Gene: Patter\_13 Start: 4002, Stop: 4352, Start Num: 77

Candidate Starts for Patter\_13:

(Start: 72 @3987 has 170 MA's), (Start: 77 @4002 has 5 MA's), (123, 4137), (152, 4215), (159, 4227), (160, 4230), (205, 4323),

Gene: Penelope2018\_84 Start: 59705, Stop: 60100, Start Num: 72

Candidate Starts for Penelope2018\_84:

(30, 59582), (Start: 72 @59705 has 170 MA's), (97, 59780), (119, 59852), (123, 59885), (129, 59921), (133, 59927), (202, 60059), (205, 60077),

Gene: Peterson\_79 Start: 49024, Stop: 48623, Start Num: 83

Candidate Starts for Peterson\_79:

(Start: 83 @49024 has 1 MA's), (88, 49012), (102, 48949), (106, 48940), (123, 48847), (135, 48805), (184, 48709), (205, 48652),

Gene: Phanphagia\_77 Start: 48265, Stop: 48633, Start Num: 73

Candidate Starts for Phanphagia\_77:

(Start: 73 @48265 has 33 MA's), (Start: 77 @48280 has 5 MA's), (123, 48400), (145, 48469), (157, 48490), (187, 48550), (205, 48607),

Gene: Phatniss\_74 Start: 46570, Stop: 46998, Start Num: 74

Candidate Starts for Phatniss\_74:

(Start: 74 @46570 has 12 MA's), (Start: 77 @46585 has 5 MA's), (Start: 91 @46639 has 1 MA's), (117, 46732), (123, 46792), (205, 46969),

Gene: PherrisBueller\_78 Start: 45810, Stop: 45409, Start Num: 75

Candidate Starts for PherrisBueller\_78:

(Start: 75 @45810 has 57 MA's), (123, 45618), (152, 45540), (159, 45528), (160, 45525), (205, 45432),

Gene: PhesterPhotato\_82 Start: 48233, Stop: 48610, Start Num: 72

Candidate Starts for PhesterPhotato\_82:

(Start: 72 @48233 has 170 MA's), (Start: 77 @48248 has 5 MA's), (123, 48383), (149, 48470), (152, 48476), (171, 48500),

Gene: Philus\_82 Start: 50521, Stop: 50901, Start Num: 72

Candidate Starts for Philus\_82:

(Start: 72 @50521 has 170 MA's), (Start: 77 @50536 has 5 MA's), (123, 50692), (152, 50770), (159, 50782), (160, 50785), (205, 50878),

Gene: Phlegm\_14 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Phlegm\_14:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Phox\_6 Start: 2748, Stop: 3188, Start Num: 76

Candidate Starts for Phox\_6:



(Start: 76 @2748 has 30 MA's), (Start: 77 @2760 has 5 MA's), (109, 2880), (123, 2970), (135, 3012), (184, 3108), (198, 3132),

Gene: Phox\_14 Start: 5699, Stop: 6049, Start Num: 72

Candidate Starts for Phox\_14:

(Start: 72 @5699 has 170 MA's), (Start: 77 @5714 has 5 MA's), (123, 5834), (152, 5912), (159, 5924), (160, 5927), (205, 6020),

Gene: Phusco\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Phusco\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Pier\_7 Start: 2140, Stop: 2496, Start Num: 75

Candidate Starts for Pier\_7:

(Start: 75 @2140 has 57 MA's), (Start: 77 @2152 has 5 MA's), (86, 2179), (109, 2224), (123, 2287), (152, 2365), (159, 2377), (160, 2380),

Gene: Pinkcreek\_9 Start: 4088, Stop: 4453, Start Num: 72

Candidate Starts for Pinkcreek\_9:

(Start: 72 @4088 has 170 MA's), (Start: 77 @4103 has 5 MA's), (123, 4238), (152, 4316), (159, 4328), (160, 4331), (205, 4424),

Gene: Pio\_6 Start: 1759, Stop: 2151, Start Num: 75

Candidate Starts for Pio\_6:

(Start: 75 @1759 has 57 MA's), (Start: 77 @1771 has 5 MA's), (Start: 96 @1819 has 1 MA's), (99, 1825), (118, 1888), (123, 1942), (152, 2020), (159, 2032), (160, 2035),

Gene: Pippy\_75 Start: 47171, Stop: 47551, Start Num: 73

Candidate Starts for Pippy\_75:

(Start: 73 @47171 has 33 MA's), (Start: 77 @47186 has 5 MA's), (92, 47246), (120, 47318), (123, 47351), (205, 47528),

Gene: Pivoine\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Pivoine\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Pleione\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Pleione\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Pollywog\_86 Start: 51074, Stop: 51427, Start Num: 75

Candidate Starts for Pollywog\_86:

(11, 50873), (48, 51017), (Start: 50 @51020 has 13 MA's), (Start: 75 @51074 has 57 MA's), (Start: 77 @51086 has 5 MA's), (123, 51206), (129, 51242), (133, 51248), (202, 51380),

Gene: PopTart\_69 Start: 45137, Stop: 45511, Start Num: 71

Candidate Starts for PopTart\_69:

(Start: 71 @45137 has 14 MA's), (Start: 77 @45152 has 5 MA's), (121, 45272), (123, 45287), (134, 45329), (183, 45425), (195, 45449),

Gene: Pringar\_7 Start: 2135, Stop: 2512, Start Num: 72

Candidate Starts for Pringar\_7:

(Start: 72 @2135 has 170 MA's), (Start: 77 @2147 has 5 MA's), (123, 2303), (152, 2381), (159, 2393), (160, 2396),

Gene: Priscilla\_82 Start: 49697, Stop: 50080, Start Num: 75

Candidate Starts for Priscilla\_82:

(16, 49523), (18, 49532), (26, 49556), (31, 49574), (58, 49667), (62, 49676), (Start: 75 @49697 has 57 MA's), (123, 49883), (127, 49913), (144, 49949), (188, 50000),

Gene: Priscilla\_76 Start: 48141, Stop: 48566, Start Num: 50

Candidate Starts for Priscilla\_76:

(Start: 50 @48141 has 13 MA's), (54, 48156), (123, 48336), (154, 48420), (159, 48426), (160, 48429), (198, 48513),

Gene: ProMouse\_60 Start: 41014, Stop: 40655, Start Num: 93

Candidate Starts for ProMouse\_60:

(11, 41281), (48, 41137), (Start: 50 @41134 has 13 MA's), (Start: 75 @41080 has 57 MA's), (93, 41014), (123, 40870), (129, 40834), (133, 40828), (202, 40696), (205, 40678),

Gene: PurduePete\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for PurduePete\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: QBert\_6 Start: 2762, Stop: 3154, Start Num: 75

Candidate Starts for QBert\_6:

(Start: 75 @2762 has 57 MA's), (Start: 77 @2774 has 5 MA's), (Start: 96 @2822 has 1 MA's), (99, 2828), (118, 2891), (123, 2945), (152, 3023), (159, 3035), (160, 3038),

Gene: Quasimodo\_13 Start: 4969, Stop: 5334, Start Num: 72

Candidate Starts for Quasimodo\_13:

(Start: 72 @4969 has 170 MA's), (Start: 77 @4984 has 5 MA's), (123, 5119), (152, 5197), (159, 5209), (160, 5212), (205, 5305),

Gene: Rabinovish\_12 Start: 4755, Stop: 5105, Start Num: 72

Candidate Starts for Rabinovish\_12:

(Start: 72 @4755 has 170 MA's), (Start: 77 @4770 has 5 MA's), (123, 4890), (152, 4968), (159, 4980), (160, 4983), (205, 5076),

Gene: Radiance\_78 Start: 48851, Stop: 49231, Start Num: 73

Candidate Starts for Radiance\_78:

(Start: 73 @48851 has 33 MA's), (Start: 77 @48866 has 5 MA's), (92, 48926), (120, 48998), (123, 49031), (205, 49208),

Gene: Rahel\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Rahel\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Ramsey\_83 Start: 50333, Stop: 50683, Start Num: 71

Candidate Starts for Ramsey\_83:

(Start: 71 @50333 has 14 MA's), (Start: 77 @50348 has 5 MA's), (123, 50483), (205, 50660),

Gene: RedBird\_81 Start: 50091, Stop: 50441, Start Num: 71

Candidate Starts for RedBird\_81:

(Start: 71 @50091 has 14 MA's), (Start: 77 @50106 has 5 MA's), (123, 50241), (205, 50418),

Gene: RedRaider77\_8 Start: 2530, Stop: 2889, Start Num: 72

Candidate Starts for RedRaider77\_8:

(Start: 72 @2530 has 170 MA's), (Start: 77 @2545 has 5 MA's), (123, 2680), (152, 2758), (159, 2770), (160, 2773), (205, 2866), (209, 2884),

Gene: Renaud18\_89 Start: 49475, Stop: 49831, Start Num: 72

Candidate Starts for Renaud18\_89:

(21, 49322), (24, 49337), (Start: 72 @49475 has 170 MA's), (Start: 77 @49490 has 5 MA's), (123, 49610), (140, 49670), (147, 49685), (160, 49709), (163, 49715), (191, 49748), (205, 49802),

Gene: Renaud18\_72 Start: 42500, Stop: 42886, Start Num: 55

Candidate Starts for Renaud18\_72:

(Start: 55 @42500 has 1 MA's), (61, 42512), (78, 42539), (98, 42584), (123, 42647), (126, 42674), (131, 42692), (140, 42719), (198, 42827),

Gene: Ringer\_61 Start: 42004, Stop: 41573, Start Num: 75

Candidate Starts for Ringer\_61:

(11, 42205), (48, 42061), (Start: 50 @42058 has 13 MA's), (Start: 75 @42004 has 57 MA's), (Start: 77 @41992 has 5 MA's), (117, 41842), (118, 41839), (123, 41782), (152, 41704), (159, 41692), (160, 41689),

Gene: Rita\_85 Start: 50514, Stop: 50948, Start Num: 68

Candidate Starts for Rita\_85:

(14, 50340), (17, 50355), (19, 50364), (29, 50394), (Start: 68 @50514 has 1 MA's), (Start: 77 @50538 has 5 MA's), (123, 50718), (154, 50814), (194, 50880), (200, 50904), (205, 50925),

Gene: Rizal\_13 Start: 3965, Stop: 4330, Start Num: 72

Candidate Starts for Rizal\_13:

(Start: 72 @3965 has 170 MA's), (Start: 77 @3980 has 5 MA's), (123, 4115), (152, 4193), (159, 4205), (160, 4208), (205, 4301),

Gene: RoMag\_5 Start: 2623, Stop: 3003, Start Num: 77

Candidate Starts for RoMag\_5:

(Start: 75 @2611 has 57 MA's), (Start: 77 @2623 has 5 MA's), (Start: 96 @2671 has 1 MA's), (99, 2677), (118, 2740), (123, 2794), (152, 2872), (159, 2884), (160, 2887),

Gene: Rockne\_78 Start: 46944, Stop: 47372, Start Num: 74

Candidate Starts for Rockne\_78:

(Start: 74 @46944 has 12 MA's), (Start: 77 @46959 has 5 MA's), (Start: 91 @47013 has 1 MA's), (117, 47106), (123, 47166), (205, 47343),

Gene: Ronan\_6 Start: 1749, Stop: 2189, Start Num: 76

Candidate Starts for Ronan\_6:

(Start: 76 @1749 has 30 MA's), (Start: 77 @1761 has 5 MA's), (109, 1881), (123, 1971), (135, 2013), (184, 2109), (198, 2133),

Gene: Roots515\_14 Start: 5049, Stop: 5399, Start Num: 72

Candidate Starts for Roots515\_14:

(Start: 72 @5049 has 170 MA's), (Start: 77 @5064 has 5 MA's), (123, 5184), (152, 5262), (159, 5274), (160, 5277), (205, 5370),

Gene: Ruby\_73 Start: 48248, Stop: 48598, Start Num: 73

Candidate Starts for Ruby\_73:

(Start: 73 @48248 has 33 MA's), (Start: 77 @48263 has 5 MA's), (123, 48383),

Gene: Saal\_78 Start: 49224, Stop: 49649, Start Num: 50

Candidate Starts for Saal\_78:

(Start: 50 @49224 has 13 MA's), (54, 49239), (123, 49419), (154, 49503), (159, 49509), (160, 49512), (198, 49596),

Gene: Salacia\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Salacia\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Sandalphon\_74 Start: 47993, Stop: 48385, Start Num: 72

Candidate Starts for Sandalphon\_74:

(Start: 72 @47993 has 170 MA's), (Start: 77 @48008 has 5 MA's), (124, 48146), (149, 48230), (152, 48236), (171, 48260), (199, 48323), (205, 48362),

Gene: Sarma624\_77 Start: 44943, Stop: 45320, Start Num: 73

Candidate Starts for Sarma624\_77:

(Start: 73 @44943 has 33 MA's), (Start: 77 @44958 has 5 MA's), (123, 45114), (132, 45156), (165, 45222), (167, 45225), (203, 45294),

Gene: Sassafras\_81 Start: 48408, Stop: 48758, Start Num: 71

Candidate Starts for Sassafras\_81:

(Start: 71 @48408 has 14 MA's), (Start: 77 @48423 has 5 MA's), (123, 48558), (205, 48735),

Gene: SassyB\_69 Start: 45137, Stop: 45511, Start Num: 71

Candidate Starts for SassyB\_69:

(Start: 71 @45137 has 14 MA's), (Start: 77 @45152 has 5 MA's), (121, 45272), (123, 45287), (134, 45329), (183, 45425), (195, 45449),

Gene: Sauce\_5 Start: 1609, Stop: 2001, Start Num: 75

Candidate Starts for Sauce\_5:

(Start: 75 @1609 has 57 MA's), (Start: 77 @1621 has 5 MA's), (Start: 96 @1669 has 1 MA's), (99, 1675), (118, 1738), (123, 1792), (152, 1870), (159, 1882), (160, 1885),

Gene: Schatzie\_68 Start: 49861, Stop: 49445, Start Num: 73

Candidate Starts for Schatzie\_68:

(Start: 73 @49861 has 33 MA's), (Start: 77 @49849 has 5 MA's), (101, 49765), (110, 49747), (123, 49669), (127, 49639), (139, 49600), (141, 49597),

Gene: ScottMcG\_15 Start: 5206, Stop: 5562, Start Num: 72

Candidate Starts for ScottMcG\_15:

(Start: 72 @5206 has 170 MA's), (Start: 77 @5221 has 5 MA's), (123, 5341), (201, 5512), (205, 5533),

Gene: ScottMcG\_5 Start: 1605, Stop: 1997, Start Num: 75

Candidate Starts for ScottMcG\_5:

(Start: 75 @1605 has 57 MA's), (Start: 77 @1617 has 5 MA's), (Start: 96 @1665 has 1 MA's), (99, 1671), (118, 1734), (123, 1788), (152, 1866), (159, 1878), (160, 1881),

Gene: Seabastian\_94 Start: 50986, Stop: 51387, Start Num: 56

Candidate Starts for Seabastian\_94:

(19, 50863), (44, 50956), (47, 50965), (Start: 56 @50986 has 8 MA's), (123, 51154), (126, 51181), (131, 51199), (140, 51226), (177, 51295), (178, 51298), (198, 51334),

Gene: Seanderson\_63 Start: 42839, Stop: 42384, Start Num: 39

Candidate Starts for Seanderson\_63:

(4, 43040), (27, 42896), (28, 42893), (Start: 39 @42839 has 4 MA's), (103, 42677), (108, 42674), (123, 42617), (126, 42590), (131, 42572), (140, 42545), (177, 42476), (178, 42473), (198, 42437),

Gene: Sebata\_7 Start: 2992, Stop: 3348, Start Num: 75

Candidate Starts for Sebata\_7:

(Start: 52 @2941 has 2 MA's), (Start: 75 @2992 has 57 MA's), (Start: 77 @3004 has 5 MA's), (86, 3031), (109, 3076), (123, 3139), (152, 3217), (159, 3229), (160, 3232),

Gene: Shaqnato\_6 Start: 1766, Stop: 2206, Start Num: 76

Candidate Starts for Shaqnato\_6:

(Start: 76 @1766 has 30 MA's), (Start: 77 @1778 has 5 MA's), (109, 1898), (123, 1988), (135, 2030), (184, 2126), (198, 2150),

Gene: Shauna1\_78 Start: 48515, Stop: 48883, Start Num: 73

Candidate Starts for Shauna1\_78:

(Start: 73 @48515 has 33 MA's), (Start: 77 @48530 has 5 MA's), (123, 48650), (145, 48719), (157, 48740), (187, 48800), (205, 48857),

Gene: Shelob\_17 Start: 6224, Stop: 6574, Start Num: 72

Candidate Starts for Shelob\_17:

(Start: 72 @6224 has 170 MA's), (Start: 77 @6239 has 5 MA's), (123, 6359), (152, 6437), (159, 6449), (160, 6452), (205, 6545),

Gene: ShiaLabeouf\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for ShiaLabeouf\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Shifa\_10 Start: 4323, Stop: 4688, Start Num: 72

Candidate Starts for Shifa\_10:

(Start: 72 @4323 has 170 MA's), (Start: 77 @4338 has 5 MA's), (123, 4473), (152, 4551), (159, 4563), (160, 4566), (205, 4659),

Gene: Shnickers\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Shnickers\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Shrimp\_14 Start: 5054, Stop: 5404, Start Num: 72

Candidate Starts for Shrimp\_14:

(Start: 72 @5054 has 170 MA's), (Start: 77 @5069 has 5 MA's), (123, 5189), (152, 5267), (159, 5279), (160, 5282), (205, 5375),

Gene: ShroomBoi\_80 Start: 48740, Stop: 49138, Start Num: 72  
Candidate Starts for ShroomBoi\_80:  
(Start: 72 @48740 has 170 MA's), (Start: 77 @48755 has 5 MA's), (123, 48911), (149, 48998), (152, 49004), (171, 49028),

Gene: SiSi\_75 Start: 47345, Stop: 47695, Start Num: 73  
Candidate Starts for SiSi\_75:  
(Start: 73 @47345 has 33 MA's), (Start: 77 @47360 has 5 MA's), (123, 47480),

Gene: SilverDipper\_13 Start: 3970, Stop: 4335, Start Num: 72  
Candidate Starts for SilverDipper\_13:  
(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: SimranZ1\_79 Start: 47570, Stop: 47956, Start Num: 73  
Candidate Starts for SimranZ1\_79:  
(Start: 73 @47570 has 33 MA's), (Start: 77 @47585 has 5 MA's), (92, 47645), (120, 47717), (123, 47750), (173, 47852), (187, 47873), (196, 47897),

Gene: SmallFry\_13 Start: 3966, Stop: 4331, Start Num: 72  
Candidate Starts for SmallFry\_13:  
(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Smooch\_23 Start: 10621, Stop: 10995, Start Num: 64  
Candidate Starts for Smooch\_23:  
(35, 10534), (53, 10591), (Start: 64 @10621 has 1 MA's), (Start: 70 @10633 has 2 MA's), (Start: 77 @10645 has 5 MA's), (123, 10765), (154, 10849), (159, 10855), (160, 10858), (198, 10942),

Gene: Soul22\_81 Start: 46673, Stop: 47050, Start Num: 72  
Candidate Starts for Soul22\_81:  
(Start: 72 @46673 has 170 MA's), (Start: 77 @46688 has 5 MA's), (123, 46808), (149, 46895), (152, 46901), (171, 46925), (199, 46988), (205, 47027),

Gene: Spartacus\_85 Start: 51000, Stop: 51356, Start Num: 75  
Candidate Starts for Spartacus\_85:  
(3, 50706), (5, 50739), (16, 50826), (18, 50835), (26, 50859), (31, 50877), (58, 50970), (62, 50979), (Start: 75 @51000 has 57 MA's), (81, 51039), (102, 51084), (123, 51147), (128, 51180), (129, 51183), (147, 51234), (151, 51240), (186, 51276), (192, 51285),

Gene: Specks\_8 Start: 2464, Stop: 2820, Start Num: 75  
Candidate Starts for Specks\_8:  
(Start: 75 @2464 has 57 MA's), (Start: 77 @2476 has 5 MA's), (86, 2503), (109, 2548), (123, 2611), (152, 2689), (159, 2701), (160, 2704),

Gene: Sprinklers\_13 Start: 4140, Stop: 4490, Start Num: 72  
Candidate Starts for Sprinklers\_13:  
(Start: 72 @4140 has 170 MA's), (Start: 77 @4155 has 5 MA's), (123, 4275), (152, 4353), (159, 4365), (160, 4368), (205, 4461),

Gene: Sprinklers\_6 Start: 1749, Stop: 2189, Start Num: 76  
Candidate Starts for Sprinklers\_6:

(Start: 76 @1749 has 30 MA's), (Start: 77 @1761 has 5 MA's), (109, 1881), (123, 1971), (135, 2013), (184, 2109), (198, 2133),

Gene: Spud\_6 Start: 1759, Stop: 2151, Start Num: 75

Candidate Starts for Spud\_6:

(Start: 75 @1759 has 57 MA's), (Start: 77 @1771 has 5 MA's), (Start: 96 @1819 has 1 MA's), (99, 1825), (118, 1888), (123, 1942), (152, 2020), (159, 2032), (160, 2035),

Gene: SrishMeg2525\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for SrishMeg2525\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: StephanieG\_7 Start: 2140, Stop: 2496, Start Num: 75

Candidate Starts for StephanieG\_7:

(Start: 75 @2140 has 57 MA's), (Start: 77 @2152 has 5 MA's), (86, 2179), (109, 2224), (123, 2287), (152, 2365), (159, 2377), (160, 2380),

Gene: Stubby\_14 Start: 5456, Stop: 5821, Start Num: 72

Candidate Starts for Stubby\_14:

(Start: 72 @5456 has 170 MA's), (Start: 77 @5471 has 5 MA's), (123, 5606), (152, 5684), (159, 5696), (160, 5699), (205, 5792),

Gene: StubbySaigey\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for StubbySaigey\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: SuperGrey\_79 Start: 50245, Stop: 50601, Start Num: 71

Candidate Starts for SuperGrey\_79:

(Start: 71 @50245 has 14 MA's), (Start: 77 @50260 has 5 MA's), (123, 50395), (205, 50572),

Gene: Superphikiman\_77 Start: 48448, Stop: 48050, Start Num: 52

Candidate Starts for Superphikiman\_77:

(Start: 52 @48448 has 2 MA's), (54, 48436), (123, 48280), (154, 48196), (159, 48190), (160, 48187), (198, 48103),

Gene: SwagPigglett\_82 Start: 50360, Stop: 50785, Start Num: 50

Candidate Starts for SwagPigglett\_82:

(Start: 50 @50360 has 13 MA's), (54, 50375), (123, 50555), (154, 50639), (159, 50645), (160, 50648), (198, 50732),

Gene: Target\_79 Start: 46689, Stop: 46291, Start Num: 75

Candidate Starts for Target\_79:

(Start: 75 @46689 has 57 MA's), (Start: 77 @46677 has 5 MA's), (123, 46521), (136, 46467), (138, 46458), (160, 46410), (163, 46404), (184, 46368), (195, 46350), (205, 46314),

Gene: Teardrop\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Teardrop\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Teodoridan\_77 Start: 45969, Stop: 45598, Start Num: 75

Candidate Starts for Teodoridan\_77:

(Start: 75 @45969 has 57 MA's), (Start: 77 @45957 has 5 MA's), (90, 45921), (105, 45879), (115, 45855), (123, 45813), (159, 45723), (160, 45720), (198, 45657), (205, 45621),

Gene: Thibault\_74 Start: 51276, Stop: 51677, Start Num: 56

Candidate Starts for Thibault\_74:

(20, 51156), (22, 51159), (34, 51207), (38, 51222), (Start: 56 @51276 has 8 MA's), (123, 51444), (126, 51471), (131, 51489), (140, 51516), (177, 51585), (178, 51588), (198, 51624),

Gene: Thoth\_84 Start: 59759, Stop: 60154, Start Num: 72

Candidate Starts for Thoth\_84:

(30, 59636), (Start: 72 @59759 has 170 MA's), (97, 59834), (119, 59906), (123, 59939), (129, 59975), (133, 59981), (202, 60113), (205, 60131),

Gene: TinyTim\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for TinyTim\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Tonenili\_20 Start: 6077, Stop: 6418, Start Num: 73

Candidate Starts for Tonenili\_20:

(Start: 73 @6077 has 33 MA's), (Start: 75 @6080 has 57 MA's), (Start: 77 @6092 has 5 MA's), (81, 6119), (84, 6128), (107, 6170), (118, 6194), (123, 6236), (137, 6287), (181, 6329),

Gene: Tootsieroll\_77 Start: 49368, Stop: 49754, Start Num: 71

Candidate Starts for Tootsieroll\_77:

(Start: 71 @49368 has 14 MA's), (Start: 77 @49383 has 5 MA's), (123, 49518), (143, 49584), (158, 49617), (160, 49623), (182, 49659), (189, 49668), (208, 49734),

Gene: Tortoise16\_12 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Tortoise16\_12:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Trinitium\_13 Start: 3966, Stop: 4331, Start Num: 72

Candidate Starts for Trinitium\_13:

(Start: 72 @3966 has 170 MA's), (Start: 77 @3981 has 5 MA's), (123, 4116), (152, 4194), (159, 4206), (160, 4209), (205, 4302),

Gene: Tripl3t\_83 Start: 50856, Stop: 50458, Start Num: 76

Candidate Starts for Tripl3t\_83:

(Start: 76 @50856 has 30 MA's), (123, 50664), (139, 50613), (149, 50589), (170, 50562), (205, 50481),

Gene: Turret\_13 Start: 3949, Stop: 4314, Start Num: 72

Candidate Starts for Turret\_13:

(Start: 72 @3949 has 170 MA's), (Start: 77 @3964 has 5 MA's), (123, 4099), (152, 4177), (159, 4189), (160, 4192), (205, 4285),

Gene: Tweety\_79 Start: 48958, Stop: 49341, Start Num: 72

Candidate Starts for Tweety\_79:

(Start: 72 @48958 has 170 MA's), (Start: 77 @48973 has 5 MA's), (123, 49093), (149, 49180), (152, 49186), (171, 49210), (205, 49312),



Gene: Tyke\_8 Start: 2464, Stop: 2820, Start Num: 75

Candidate Starts for Tyke\_8:

(Start: 75 @2464 has 57 MA's), (Start: 77 @2476 has 5 MA's), (86, 2503), (109, 2548), (123, 2611), (152, 2689), (159, 2701), (160, 2704),

Gene: Ukulele\_42 Start: 35251, Stop: 34865, Start Num: 60

Candidate Starts for Ukulele\_42:

(7, 35455), (25, 35371), (Start: 60 @35251 has 1 MA's), (Start: 75 @35227 has 57 MA's), (Start: 77 @35215 has 5 MA's), (123, 35095), (136, 35041), (138, 35032), (160, 34984), (163, 34978), (184, 34942), (195, 34924), (205, 34888),

Gene: UncleRicky\_76 Start: 46818, Stop: 47246, Start Num: 74

Candidate Starts for UncleRicky\_76:

(Start: 74 @46818 has 12 MA's), (Start: 77 @46833 has 5 MA's), (Start: 91 @46887 has 1 MA's), (117, 46980), (123, 47040), (205, 47217),

Gene: ValleyTerrace\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for ValleyTerrace\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Velveteen\_73 Start: 44943, Stop: 45320, Start Num: 73

Candidate Starts for Velveteen\_73:

(Start: 73 @44943 has 33 MA's), (Start: 77 @44958 has 5 MA's), (123, 45114), (132, 45156), (165, 45222), (167, 45225), (203, 45294),

Gene: Veteran\_71 Start: 47213, Stop: 47563, Start Num: 73

Candidate Starts for Veteran\_71:

(Start: 73 @47213 has 33 MA's), (Start: 77 @47228 has 5 MA's), (123, 47348),

Gene: Visconti\_85 Start: 59720, Stop: 60115, Start Num: 72

Candidate Starts for Visconti\_85:

(30, 59597), (Start: 72 @59720 has 170 MA's), (97, 59795), (119, 59867), (123, 59900), (129, 59936), (133, 59942), (202, 60074), (205, 60092),

Gene: Wachhund\_78 Start: 45999, Stop: 46379, Start Num: 71

Candidate Starts for Wachhund\_78:

(Start: 71 @45999 has 14 MA's), (Start: 77 @46014 has 5 MA's), (123, 46149), (136, 46203), (138, 46212), (161, 46260), (174, 46278), (189, 46302), (195, 46320),

Gene: WaldoWhy\_85 Start: 59683, Stop: 60078, Start Num: 72

Candidate Starts for WaldoWhy\_85:

(30, 59560), (Start: 72 @59683 has 170 MA's), (97, 59758), (119, 59830), (123, 59863), (129, 59899), (133, 59905), (202, 60037), (205, 60055),

Gene: Wally\_13 Start: 3970, Stop: 4335, Start Num: 72

Candidate Starts for Wally\_13:

(Start: 72 @3970 has 170 MA's), (Start: 77 @3985 has 5 MA's), (123, 4120), (152, 4198), (159, 4210), (160, 4213), (205, 4306),

Gene: Wanda\_82 Start: 51659, Stop: 51234, Start Num: 76

Candidate Starts for Wanda\_82:

(Start: 76 @51659 has 30 MA's), (Start: 77 @51647 has 5 MA's), (Start: 91 @51593 has 1 MA's),  
(117, 51500), (123, 51440), (205, 51263),

Gene: Whouxphf\_84 Start: 50087, Stop: 50422, Start Num: 75

Candidate Starts for Whouxphf\_84:

(1, 49742), (2, 49760), (3, 49793), (5, 49826), (16, 49913), (18, 49922), (23, 49934), (26, 49946), (29, 49955), (31, 49964), (58, 50057), (62, 50066), (Start: 75 @50087 has 57 MA's), (118, 50186), (123, 50219), (131, 50261), (172, 50327),

Gene: Willis\_14 Start: 4975, Stop: 5340, Start Num: 72

Candidate Starts for Willis\_14:

(Start: 72 @4975 has 170 MA's), (Start: 77 @4990 has 5 MA's), (123, 5125), (152, 5203), (159, 5215), (160, 5218), (205, 5311),

Gene: XFactor\_74 Start: 47423, Stop: 47782, Start Num: 96

Candidate Starts for XFactor\_74:

(Start: 96 @47423 has 1 MA's), (100, 47438), (123, 47558), (135, 47600), (184, 47696), (205, 47753),

Gene: Yassified\_6 Start: 1770, Stop: 2210, Start Num: 76

Candidate Starts for Yassified\_6:

(Start: 76 @1770 has 30 MA's), (Start: 77 @1782 has 5 MA's), (109, 1902), (123, 1992), (135, 2034), (184, 2130), (198, 2154),

Gene: Yassified\_13 Start: 4163, Stop: 4537, Start Num: 72

Candidate Starts for Yassified\_13:

(Start: 72 @4163 has 170 MA's), (Start: 77 @4178 has 5 MA's), (79, 4187), (90, 4214), (105, 4256), (115, 4280), (123, 4322), (159, 4412), (160, 4415), (203, 4508),

Gene: YemiJoy2021\_14 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for YemiJoy2021\_14:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: YoungMoneyMata\_13 Start: 3968, Stop: 4333, Start Num: 72

Candidate Starts for YoungMoneyMata\_13:

(Start: 72 @3968 has 170 MA's), (Start: 77 @3983 has 5 MA's), (123, 4118), (152, 4196), (159, 4208), (160, 4211), (205, 4304),

Gene: Yucca\_13 Start: 4972, Stop: 5322, Start Num: 72

Candidate Starts for Yucca\_13:

(Start: 72 @4972 has 170 MA's), (Start: 77 @4987 has 5 MA's), (123, 5107), (152, 5185), (159, 5197), (160, 5200), (205, 5293),

Gene: Zakhe101\_23 Start: 10681, Stop: 11073, Start Num: 70

Candidate Starts for Zakhe101\_23:

(Start: 70 @10681 has 2 MA's), (123, 10813), (145, 10897), (168, 10951), (179, 10975), (185, 10987), (190, 10993), (198, 11017), (200, 11032), (205, 11050),

Gene: Zalkecks\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for Zalkecks\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),

Gene: Zapner\_87 Start: 47003, Stop: 47359, Start Num: 72

Candidate Starts for Zapner\_87:

(Start: 72 @47003 has 170 MA's), (Start: 77 @47018 has 5 MA's), (123, 47138), (201, 47309), (205, 47330),

Gene: Zeenon\_16 Start: 5051, Stop: 5401, Start Num: 72

Candidate Starts for Zeenon\_16:

(Start: 72 @5051 has 170 MA's), (Start: 77 @5066 has 5 MA's), (123, 5186), (152, 5264), (159, 5276), (160, 5279), (205, 5372),

Gene: Zelink\_71 Start: 51457, Stop: 51044, Start Num: 73

Candidate Starts for Zelink\_71:

(Start: 73 @51457 has 33 MA's), (Start: 77 @51445 has 5 MA's), (101, 51361), (110, 51343), (123, 51265), (127, 51235), (139, 51196), (141, 51193),

Gene: ZygoTaiga\_15 Start: 5050, Stop: 5400, Start Num: 72

Candidate Starts for ZygoTaiga\_15:

(Start: 72 @5050 has 170 MA's), (Start: 77 @5065 has 5 MA's), (123, 5185), (152, 5263), (159, 5275), (160, 5278), (205, 5371),