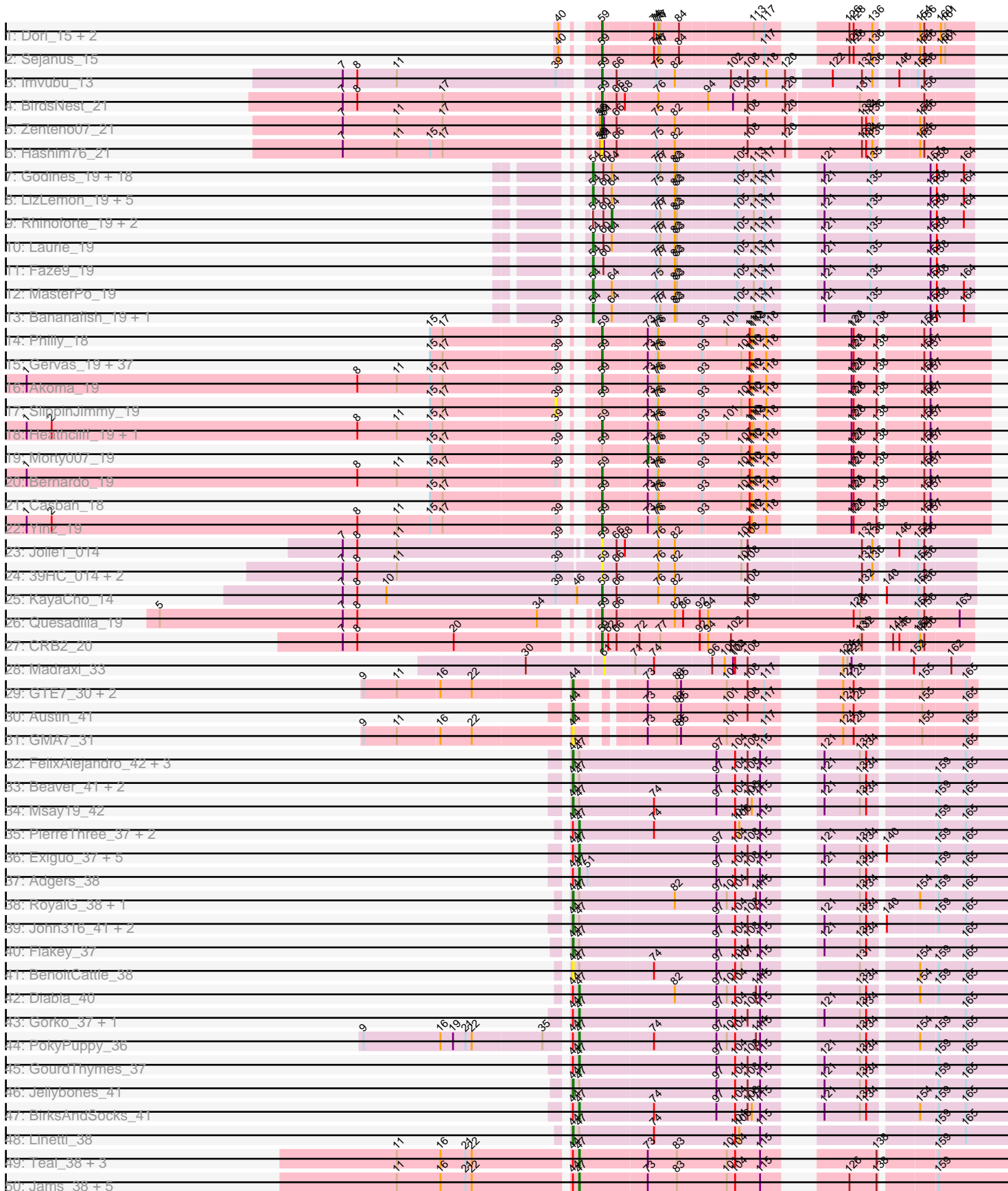
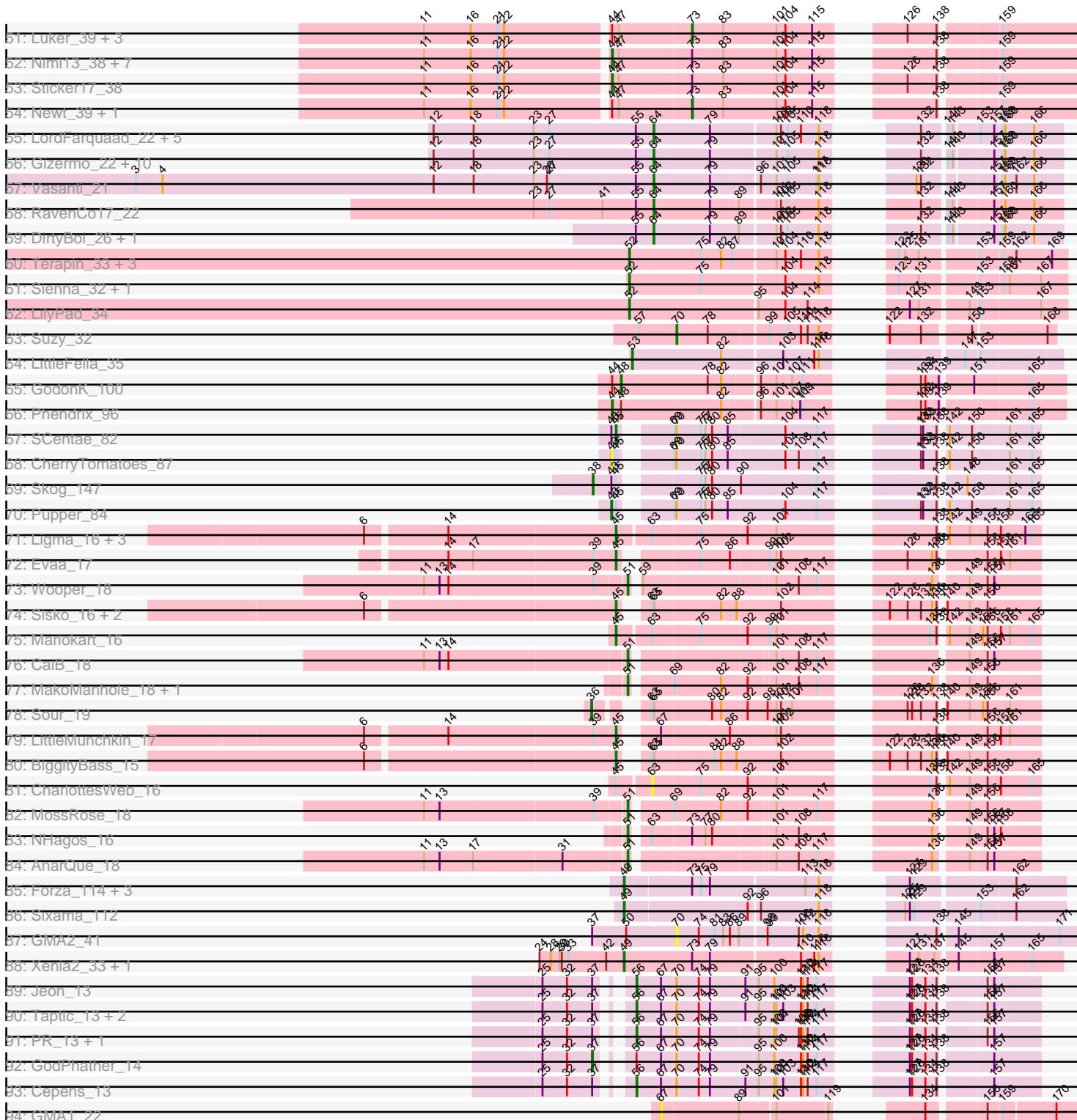


Pham 156083



Pham 156083



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 156083 Report

This analysis was run 04/12/24 on database version 558.

Pham number 156083 has 232 members, 30 are drafts.

Phages represented in each track:

- Track 1 : Dori\_15, Mask\_15, Mao1\_14
- Track 2 : Sejanus\_15
- Track 3 : Imvubu\_13
- Track 4 : BirdsNest\_21
- Track 5 : Zenteno07\_21
- Track 6 : Hashim76\_21
- Track 7 : Godines\_19, Brownie5\_19, Boyle\_19, Arbiter\_19, Kheth\_19, Ares\_19, Tres\_19, Rosebush\_19, Eaglehorse\_19, Glass\_19, Sabella\_19, Allegro\_19, Tinciduntolum\_20, FrenchFry\_19, West99\_19, Lars\_19, Hedgerow\_19, Kaleb\_19, Qyrzula\_18
- Track 8 : LizLemon\_19, ItsyBitsy1\_19, Lephleur\_19, Calamitous\_19, Holeinone\_19, Phantasmagoria\_19
- Track 9 : Rhinoforte\_19, Opia\_19, Coffee\_19
- Track 10 : Laurie\_19
- Track 11 : Faze9\_19
- Track 12 : MasterPo\_19
- Track 13 : Bananafish\_19, Blocker23\_19
- Track 14 : Philly\_18
- Track 15 : Gervas\_19, OrangeOswald\_19, Abinghost\_19, Ben11\_18, Jackstina\_18, Mortcellus\_18, HarveySr\_19, GlenHope\_20, Neos5\_19, MmasiCarm\_19, Nozo\_19, Athena\_20, ChaChing\_19, SynergyX\_19, Tydolla\_19, Corofin\_19, LestyG\_19, Yahalom\_19, Rita1961\_19, Marley1013\_19, Baloo\_19, RagingRooster\_19, Chandler\_19, Briakila\_19, Kronus\_18, Audrey\_19, Deenasa\_19, Obutu\_19, Pipefish\_19, Daisy\_19, Phaedrus\_18, Halfpint\_18, RomaT\_19, Phlyer\_19, Phayeta\_19, Kamiyu\_19, Compostia\_20, Gadget\_20
- Track 16 : Akoma\_19
- Track 17 : SlippinJimmy\_19
- Track 18 : Heathcliff\_19, Devonte\_19
- Track 19 : Morty007\_19
- Track 20 : Bernardo\_19
- Track 21 : Casbah\_18
- Track 22 : Yinz\_19
- Track 23 : Jolie1\_014
- Track 24 : 39HC\_014, Hosp\_012, 40BC\_014
- Track 25 : KayaCho\_14
- Track 26 : Quesadilla\_19
- Track 27 : CRB2\_20

- Track 28 : Madraxi\_33
- Track 29 : GTE7\_30, HayZem\_40, Amore2\_41
- Track 30 : Austin\_41
- Track 31 : GMA7\_31
- Track 32 : FelixAlejandro\_42, Poland\_44, Butterball\_41, Sombrero\_37
- Track 33 : Beaver\_41, Ekhein\_38, Hotorobo\_37
- Track 34 : Msay19\_42
- Track 35 : PierreThree\_37, Dakiti\_37, Chelms\_37
- Track 36 : Exiguo\_37, Lizzo\_37, Breezic\_37, Sam12\_37, RemRem\_38, Monty\_36
- Track 37 : Adgers\_38
- Track 38 : RoyalG\_38, SteveFrench\_37
- Track 39 : John316\_41, Squibbles\_37, CathyBurgh\_37
- Track 40 : Flakey\_37
- Track 41 : BenoitCattle\_38
- Track 42 : Diabla\_40
- Track 43 : Gorko\_37, Boneham\_41
- Track 44 : PokyPuppy\_36
- Track 45 : GourdThymes\_37
- Track 46 : Jellybones\_41
- Track 47 : BirksAndSocks\_41
- Track 48 : Linetti\_38
- Track 49 : Teal\_38, Woes\_38, Hail2Pitt\_38, GalacticEye\_38
- Track 50 : Jams\_38, Minos\_39, Shelley\_38, Bianmat\_38, MrWormie\_38, Lidong\_38
- Track 51 : Luker\_39, Berries\_39, Charianelly\_38, Kaseim\_39
- Track 52 : Nimi13\_38, Anamika\_38, Harambe\_38, Lahirium\_38, Neoevie\_38, Guillaume\_38, Hello\_38, Jormungandr\_38
- Track 53 : Sticker17\_38
- Track 54 : Newt\_39, Damp\_38
- Track 55 : LordFarquaad\_22, Yeet412\_22, Bjaner7\_22, Attis\_22, SoilAssassin\_22, Sahara\_21
- Track 56 : Gizermo\_22, Savage\_22, Haley23\_22, GemG\_22, Ebert\_22, Cynthia\_22, Sproutie\_22, Whiteclaw\_22, Mocha12\_22, Clap\_22, TuertoX\_22
- Track 57 : Vasanti\_21
- Track 58 : RavenCo17\_22
- Track 59 : DirtyBoi\_26, Hedwig\_26
- Track 60 : Terapin\_33, Djokovic\_32, Beyoncage\_32, BiteSize\_32
- Track 61 : Sienna\_32, Madi\_32
- Track 62 : LilyPad\_34
- Track 63 : Suzy\_32
- Track 64 : LittleFella\_35
- Track 65 : GodonK\_100
- Track 66 : Phendrix\_96
- Track 67 : SCentae\_82
- Track 68 : CherryTomatoes\_87
- Track 69 : Skog\_147
- Track 70 : Pupper\_84
- Track 71 : Ligma\_16, Fresco\_16, Axumite\_16, Shatter\_16
- Track 72 : Evaa\_17
- Track 73 : Wooper\_18
- Track 74 : Sisko\_16, Yago84\_16, AnClar\_16
- Track 75 : Mariokart\_16
- Track 76 : CaiB\_18
- Track 77 : MakoManhole\_18, CloverMinnie\_18

- Track 78 : Sour\_19
- Track 79 : LittleMunchkin\_17
- Track 80 : BiggityBass\_15
- Track 81 : CharlottesWeb\_16
- Track 82 : MossRose\_18
- Track 83 : NHagos\_16
- Track 84 : AnarQue\_18
- Track 85 : Forza\_114, BlueNGold\_113, Boopy\_114, Mareelih\_112
- Track 86 : Sixama\_112
- Track 87 : GMA2\_41
- Track 88 : Xenia2\_33, DumpTruck\_35
- Track 89 : Jeon\_13
- Track 90 : Taptic\_13, Argie\_14, Megabear\_13
- Track 91 : PR\_13, D12\_13
- Track 92 : GodPhather\_14
- Track 93 : Cepens\_13
- Track 94 : GMA1\_22

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

The start number called the most often in the published annotations is 59, it was called in 52 of the 202 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 39HC\_014, 40BC\_014, Abinghost\_19, Akoma\_19, Athena\_20, Audrey\_19, Baloo\_19, Ben11\_18, Bernardo\_19, BirdsNest\_21, Briakila\_19, CRB2\_20, Casbah\_18, ChaChing\_19, Chandler\_19, Compostia\_20, Corofin\_19, Daisy\_19, Deenasa\_19, Devonte\_19, Dori\_15, Gadget\_20, Gervas\_19, GlenHope\_20, Halfpint\_18, HarveySr\_19, Hashim76\_21, Heathcliff\_19, Hosp\_012, Imvubu\_13, Jackstina\_18, Jolie1\_014, Kamiyu\_19, KayaCho\_14, Kronus\_18, LestyG\_19, Mao1\_14, Marley1013\_19, Mask\_15, MmasiCarm\_19, Mortcellus\_18, Neos5\_19, Nozo\_19, Obutu\_19, OrangeOswald\_19, Phaedrus\_18, Phayeta\_19, Philly\_18, Phlyer\_19, Pipefish\_19, Quesadilla\_19, RagingRooster\_19, Rita1961\_19, RomaT\_19, Sejanus\_15, SynergyX\_19, Tydolla\_19, Yahalom\_19, Yinz\_19, Zenteno07\_21,

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

- Morty007\_19, SlippinJimmy\_19, Wooper\_18,

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

- Adgers\_38, Allegro\_19, Amore2\_41, AnClar\_16, Anamika\_38, AnarQue\_18, Arbiter\_19, Ares\_19, Argie\_14, Attis\_22, Austin\_41, Axumite\_16, Bananafish\_19, Beaver\_41, BenoitCattle\_38, Berries\_39, Beyoncage\_32, Bianmat\_38, BiggityBass\_15, BirksAndSocks\_41, BiteSize\_32, Bjanes7\_22, Blocker23\_19, BlueNGold\_113, Boneham\_41, Boopy\_114, Boyle\_19, Breezic\_37, Brownie5\_19, Butterball\_41, CaiB\_18, Calamitous\_19, CathyBurgh\_37, Cepens\_13, Charianelly\_38, CharlottesWeb\_16, Chelms\_37, CherryTomatoes\_87, Clap\_22, CloverMinnie\_18, Coffee\_19, Cynthia\_22, D12\_13, Dakiti\_37, Damp\_38, Diabla\_40, DirtyBoi\_26, Djokovic\_32, DumpTruck\_35, Eaglehorse\_19, Ebert\_22, Ekhein\_38, Evaa\_17, Exiguo\_37, Faze9\_19, FelixAlejandro\_42, Flakey\_37, Forza\_114,

FrenchFry\_19, Fresco\_16, GMA1\_22, GMA2\_41, GMA7\_31, GTE7\_30, GalacticEye\_38, GemG\_22, Gizermo\_22, Glass\_19, GodPhather\_14, Godines\_19, GodonK\_100, Gorko\_37, GourdThymes\_37, Guillaume\_38, Hail2Pitt\_38, Haley23\_22, Harambe\_38, HayZem\_40, Hedgerow\_19, Hedwig\_26, Hello\_38, Holeinone\_19, Hotorobo\_37, ItsyBitsy1\_19, Jams\_38, Jellybones\_41, Jeon\_13, John316\_41, Jormungandr\_38, Kaleb\_19, Kaseim\_39, Kheth\_19, Lahirium\_38, Lars\_19, Laurie\_19, Lephleur\_19, Lidong\_38, Ligma\_16, LilyPad\_34, Linetti\_38, LittleFella\_35, LittleMunchkin\_17, LizLemon\_19, Lizzo\_37, LordFarquaad\_22, Luker\_39, Madi\_32, Madraxi\_33, MakoManhole\_18, Mareelih\_112, Mariokart\_16, MasterPo\_19, Megabear\_13, Minos\_39, Mocha12\_22, Monty\_36, MossRose\_18, MrWormie\_38, Msay19\_42, NHagos\_16, Neoevie\_38, Newt\_39, Nimi13\_38, Opia\_19, PR\_13, Phantasmagoria\_19, Phendrix\_96, PierreThree\_37, PokyPuppy\_36, Poland\_44, Pupper\_84, Qyrzula\_18, RavenCo17\_22, RemRem\_38, Rhinoforte\_19, Rosebush\_19, RoyalG\_38, SCentae\_82, Sabella\_19, Sahara\_21, Sam12\_37, Savage\_22, Shatter\_16, Shelley\_38, Sienna\_32, Sisko\_16, Sixama\_112, Skog\_147, SoilAssassin\_22, Sombrero\_37, Sour\_19, Sproutie\_22, Squibbles\_37, SteveFrench\_37, Sticker17\_38, Suzy\_32, Taptic\_13, Teal\_38, Terapin\_33, Tinciduntolum\_20, Tres\_19, TuertoX\_22, Vasanti\_21, West99\_19, Whiteclaw\_22, Woes\_38, Xenia2\_33, Yago84\_16, Yeet412\_22,

### Summary by start number:

#### Start 36:

- Found in 1 of 232 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sour\_19 (DR),

#### Start 37:

- Found in 9 of 232 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 11.1% of time when present
- Phage (with cluster) where this start called: GodPhather\_14 (W),

#### Start 38:

- Found in 1 of 232 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Skog\_147 (DO),

#### Start 39:

- Found in 56 of 232 ( 24.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.8% of time when present
- Phage (with cluster) where this start called: SlippinJimmy\_19 (B3),

#### Start 43:

- Found in 4 of 232 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 50.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes\_87 (DO), Pupper\_84 (DO),

#### Start 44:

- Found in 65 of 232 ( 28.0% ) of genes in pham
- Manual Annotations of this start: 25 of 202
- Called 49.2% of time when present
- Phage (with cluster) where this start called: Amore2\_41 (CS1), Anamika\_38 (CS3), Austin\_41 (CS1), Beaver\_41 (CS2), BenoitCattle\_38 (CS2), Butterball\_41 (CS2), CathyBurgh\_37 (CS2), Ekhein\_38 (CS2), FelixAlejandro\_42 (CS2), Flakey\_37 (CS2), GMA7\_31 (CS1), GTE7\_30 (CS1), Guillaume\_38 (CS3), Harambe\_38 (CS3), HayZem\_40 (CS1), Hello\_38 (CS3), Hotorobo\_37 (CS2), Jellybones\_41 (CS2), John316\_41 (CS2), Jormungandr\_38 (CS3), Lahirium\_38 (CS3), Linetti\_38 (CS2), Msay19\_42 (CS2), Neoevie\_38 (CS3), Nimi13\_38 (CS3), Phendrix\_96 (DK), Poland\_44 (CS2), RoyalG\_38 (CS2), Sombrero\_37 (CS2), Squibbles\_37 (CS2), SteveFrench\_37 (CS2), Sticker17\_38 (CS3),

#### Start 45:

- Found in 16 of 232 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 10 of 202
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AnClar\_16 (DR), Axumite\_16 (DR), BiggityBass\_15 (DR), Evaa\_17 (DR), Fresco\_16 (DR), Ligma\_16 (DR), LittleMunchkin\_17 (DR), Mariokart\_16 (DR), SCentae\_82 (DO), Shatter\_16 (DR), Sisko\_16 (DR), Yago84\_16 (DR),

#### Start 47:

- Found in 58 of 232 ( 25.0% ) of genes in pham
- Manual Annotations of this start: 26 of 202
- Called 44.8% of time when present
- Phage (with cluster) where this start called: Adgers\_38 (CS2), Bianmat\_38 (CS3), BirksAndSocks\_41 (CS2), Boneham\_41 (CS2), Breezic\_37 (CS2), Chelms\_37 (CS2), Dakiti\_37 (CS2), Diabla\_40 (CS2), Exiguo\_37 (CS2), GalacticEye\_38 (CS3), Gorko\_37 (CS2), GourdThymes\_37 (CS2), Hail2Pitt\_38 (CS3), Jams\_38 (CS3), Lidong\_38 (CS3), Lizzo\_37 (CS2), Minos\_39 (CS3), Monty\_36 (CS2), MrWormie\_38 (CS3), PierreThree\_37 (CS2), PokyPuppy\_36 (CS2), RemRem\_38 (CS2), Sam12\_37 (CS2), Shelley\_38 (CS3), Teal\_38 (CS3), Woes\_38 (CS3),

#### Start 48:

- Found in 2 of 232 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 50.0% of time when present
- Phage (with cluster) where this start called: GodonK\_100 (DK),

#### Start 49:

- Found in 7 of 232 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 6 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_113 (DS), Boopy\_114 (DS), DumpTruck\_35 (DV), Forza\_114 (DS), Mareelih\_112 (DS), Sixama\_112 (DS), Xenia2\_33 (DV),

#### Start 51:

- Found in 8 of 232 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 6 of 202
- Called 87.5% of time when present

- Phage (with cluster) where this start called: AnarQue\_18 (DR), CaiB\_18 (DR), CloverMinnie\_18 (DR), MakoManhole\_18 (DR), MossRose\_18 (DR), NHagos\_16 (DR), Wooper\_18 (DR),

#### Start 52:

- Found in 7 of 232 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 7 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beyoncage\_32 (DG1), BiteSize\_32 (DG1), Djokovic\_32 (DG1), LilyPad\_34 (DG1), Madi\_32 (DG1), Sienna\_32 (DG1), Terapin\_33 (DG1),

#### Start 53:

- Found in 1 of 232 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleFella\_35 (DG2),

#### Start 54:

- Found in 33 of 232 ( 14.2% ) of genes in pham
- Manual Annotations of this start: 29 of 202
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Allegro\_19 (B2), Arbitrator\_19 (B2), Ares\_19 (B2), Bananafish\_19 (B2), Blocker23\_19 (B2), Boyle\_19 (B2), Brownie5\_19 (B2), Calamitous\_19 (B2), Eaglehorse\_19 (B2), Faze9\_19 (B2), FrenchFry\_19 (B2), Glass\_19 (B2), Godines\_19 (B2), Hedgerow\_19 (B2), Holeinone\_19 (B2), ItsyBitsy1\_19 (B2), Kaleb\_19 (B2), Kheth\_19 (B2), Lars\_19 (B2), Laurie\_19 (B2), Lephleur\_19 (B2), LizLemon\_19 (B2), MasterPo\_19 (B2), Phantasmagoria\_19 (B2), Qyrzula\_18 (B2), Rosebush\_19 (B2), Sabella\_19 (B2), Tinciduntolum\_20 (B2), Tres\_19 (B2), West99\_19 (B2),

#### Start 56:

- Found in 8 of 232 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 7 of 202
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Argie\_14 (W), Cepens\_13 (W), D12\_13 (W), Jeon\_13 (W), Megabear\_13 (W), PR\_13 (W), Taptic\_13 (W),

#### Start 59:

- Found in 63 of 232 ( 27.2% ) of genes in pham
- Manual Annotations of this start: 52 of 202
- Called 95.2% of time when present
- Phage (with cluster) where this start called: 39HC\_014 (B6), 40BC\_014 (B6), Abinghost\_19 (B3), Akoma\_19 (B3), Athena\_20 (B3), Audrey\_19 (B3), Baloo\_19 (B3), Ben11\_18 (B3), Bernardo\_19 (B3), BirdsNest\_21 (B13), Briakila\_19 (B3), CRB2\_20 (B9), Casbah\_18 (B3), ChaChing\_19 (B3), Chandler\_19 (B3), Compostia\_20 (B3), Corofin\_19 (B3), Daisy\_19 (B3), Deenasa\_19 (B3), Devonte\_19 (B3), Dori\_15 (AD), Gadjet\_20 (B3), Gervas\_19 (B3), GlenHope\_20 (B3), Halfpint\_18 (B3), HarveySr\_19 (B3), Hashim76\_21 (B13), Heathcliff\_19 (B3), Hosp\_012 (B6), Imvubu\_13 (B10), Jackstina\_18 (B3), Jolie1\_014 (B6), Kamiyu\_19 (B3), KayaCho\_14 (B6), Kronus\_18 (B3), LestyG\_19 (B3), Mao1\_14 (AD), Marley1013\_19 (B3), Mask\_15 (AD), MmasiCarm\_19 (B3), Mortcellus\_18 (B3), Neos5\_19 (B3), Nozo\_19 (B3), Obutu\_19 (B3), OrangeOswald\_19 (B3), Phaedrus\_18 (B3), Phayeta\_19 (B3),



Philly\_18 (B3), Phlyer\_19 (B3), Pipefish\_19 (B3), Quesadilla\_19 (B9), RagingRooster\_19 (B3), Rita1961\_19 (B3), RomaT\_19 (B3), Sejanus\_15 (AD), SynergyX\_19 (B3), Tydolla\_19 (B3), Yahalom\_19 (B3), Yinz\_19 (B3), Zenteno07\_21 (B13),

Start 61:

- Found in 3 of 232 ( 1.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Madraxi\_33 (CF),

Start 63:

- Found in 12 of 232 ( 5.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: CharlottesWeb\_16 (DR),

Start 64:

- Found in 53 of 232 ( 22.8% ) of genes in pham
- Manual Annotations of this start: 24 of 202
- Called 45.3% of time when present
- Phage (with cluster) where this start called: Attis\_22 (CZ2), Bjanes7\_22 (CZ2), Clap\_22 (CZ2), Coffee\_19 (B2), Cynthia\_22 (CZ2), DirtyBoi\_26 (DB), Ebert\_22 (CZ2), GemG\_22 (CZ2), Gizermo\_22 (CZ2), Haley23\_22 (CZ2), Hedwig\_26 (DB), LordFarquaad\_22 (CZ2), Mocha12\_22 (CZ2), Opia\_19 (B2), RavenCo17\_22 (CZ8), Rhinoforte\_19 (B2), Sahara\_21 (CZ2), Savage\_22 (CZ2), SoilAssassin\_22 (CZ2), Sproutie\_22 (CZ2), TuertoX\_22 (CZ2), Vasanti\_21 (CZ2), Whiteclaw\_22 (CZ2), Yeet412\_22 (CZ2),

Start 67:

- Found in 10 of 232 ( 4.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 10.0% of time when present
- Phage (with cluster) where this start called: GMA1\_22 (singleton),

Start 70:

- Found in 13 of 232 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 15.4% of time when present
- Phage (with cluster) where this start called: GMA2\_41 (DS), Suzy\_32 (DG1),

Start 73:

- Found in 84 of 232 ( 36.2% ) of genes in pham
- Manual Annotations of this start: 3 of 202
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Berries\_39 (CS3), Charianelly\_38 (CS3), Damp\_38 (CS3), Kaseim\_39 (CS3), Luker\_39 (CS3), Morty007\_19 (B3), Newt\_39 (CS3),

### Summary by clusters:

There are 23 clusters represented in this pham: DO, CZ8, DK, CZ2, DB, singleton, B13, B10, DV, DR, DS, CS1, CS3, CS2, AD, CF, DG2, DG1, W, B6, B2, B3, B9,

Info for manual annotations of cluster AD:

- Start number 59 was manually annotated 3 times for cluster AD.

Info for manual annotations of cluster B10:

- Start number 59 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B13:

- Start number 59 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 54 was manually annotated 29 times for cluster B2.
- Start number 64 was manually annotated 3 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 59 was manually annotated 43 times for cluster B3.
- Start number 73 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster B6:

- Start number 59 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B9:

- Start number 59 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster CS1:

- Start number 44 was manually annotated 2 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 44 was manually annotated 13 times for cluster CS2.
- Start number 47 was manually annotated 16 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 44 was manually annotated 9 times for cluster CS3.
- Start number 47 was manually annotated 10 times for cluster CS3.
- Start number 73 was manually annotated 2 times for cluster CS3.

Info for manual annotations of cluster CZ2:

- Start number 64 was manually annotated 18 times for cluster CZ2.

Info for manual annotations of cluster CZ8:

- Start number 64 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DB:

- Start number 64 was manually annotated 2 times for cluster DB.

Info for manual annotations of cluster DG1:

- Start number 52 was manually annotated 7 times for cluster DG1.
- Start number 70 was manually annotated 1 time for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 53 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DK:

- Start number 44 was manually annotated 1 time for cluster DK.
- Start number 48 was manually annotated 1 time for cluster DK.

Info for manual annotations of cluster DO:

- Start number 38 was manually annotated 1 time for cluster DO.
- Start number 43 was manually annotated 1 time for cluster DO.
- Start number 45 was manually annotated 1 time for cluster DO.

Info for manual annotations of cluster DR:

- Start number 36 was manually annotated 1 time for cluster DR.
- Start number 45 was manually annotated 9 times for cluster DR.
- Start number 51 was manually annotated 6 times for cluster DR.

Info for manual annotations of cluster DS:

- Start number 49 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster DV:

- Start number 49 was manually annotated 1 time for cluster DV.

Info for manual annotations of cluster W:

- Start number 37 was manually annotated 1 time for cluster W.
- Start number 56 was manually annotated 7 times for cluster W.

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

Gene: 39HC\_014 Start: 14058, Stop: 14567, Start Num: 59

Candidate Starts for 39HC\_014:

(7, 13695), (8, 13716), (11, 13773), (39, 13998), (Start: 59 @14058 has 52 MA's), (66, 14079), (76, 14136), (82, 14160), (107, 14250), (108, 14259), (132, 14421), (136, 14436), (153, 14487), (156, 14496),

Gene: 40BC\_014 Start: 14058, Stop: 14567, Start Num: 59

Candidate Starts for 40BC\_014:

(7, 13695), (8, 13716), (11, 13773), (39, 13998), (Start: 59 @14058 has 52 MA's), (66, 14079), (76, 14136), (82, 14160), (107, 14250), (108, 14259), (132, 14421), (136, 14436), (153, 14487), (156, 14496),

Gene: Abinghost\_19 Start: 15461, Stop: 15940, Start Num: 59

Candidate Starts for Abinghost\_19:

(15, 15254), (17, 15272), (39, 15431), (Start: 59 @15461 has 52 MA's), (Start: 73 @15524 has 3 MA's), (75, 15536), (76, 15539), (93, 15599), (107, 15653), (110, 15665), (112, 15668), (118, 15689), (127, 15758), (128, 15761), (138, 15794), (156, 15848), (157, 15857),

Gene: Adgers\_38 Start: 40339, Stop: 40881, Start Num: 47

Candidate Starts for Adgers\_38:

(Start: 44 @40330 has 25 MA's), (Start: 47 @40339 has 26 MA's), (Start: 51 @40351 has 6 MA's), (97, 40534), (104, 40561), (108, 40579), (115, 40597), (121, 40636), (131, 40687), (134, 40696), (159, 40783), (165, 40822),

Gene: Akoma\_19 Start: 15461, Stop: 15940, Start Num: 59

Candidate Starts for Akoma\_19:

(1, 14672), (8, 15149), (11, 15206), (15, 15254), (17, 15272), (39, 15431), (Start: 59 @15461 has 52 MA's), (Start: 73 @15524 has 3 MA's), (75, 15536), (76, 15539), (93, 15599), (110, 15665), (112, 15668), (118, 15689), (127, 15758), (128, 15761), (138, 15794), (156, 15848), (157, 15857),

Gene: Allegro\_19 Start: 16678, Stop: 17160, Start Num: 54

Candidate Starts for Allegro\_19:

(Start: 54 @16678 has 29 MA's), (60, 16693), (Start: 64 @16705 has 24 MA's), (75, 16765), (77, 16771), (82, 16792), (83, 16795), (105, 16876), (113, 16900), (117, 16915), (121, 16948), (135, 17014), (157, 17101), (158, 17107), (164, 17146),

Gene: Amore2\_41 Start: 40831, Stop: 41301, Start Num: 44

Candidate Starts for Amore2\_41:

(9, 40549), (11, 40597), (16, 40657), (22, 40702), (Start: 44 @40831 has 25 MA's), (Start: 73 @40903 has 3 MA's), (83, 40945), (85, 40951), (101, 41014), (108, 41044), (117, 41068), (124, 41128), (128, 41143), (155, 41227), (165, 41287),

Gene: AnClar\_16 Start: 14634, Stop: 15104, Start Num: 45

Candidate Starts for AnClar\_16:

(6, 14310), (Start: 45 @14634 has 10 MA's), (63, 14655), (65, 14658), (82, 14745), (88, 14766), (102, 14823), (122, 14916), (126, 14940), (132, 14958), (136, 14973), (138, 14979), (140, 14982), (149, 15012), (156, 15033),

Gene: Anamika\_38 Start: 42711, Stop: 43259, Start Num: 44

Candidate Starts for Anamika\_38:

(11, 42471), (16, 42534), (21, 42570), (22, 42579), (Start: 44 @42711 has 25 MA's), (Start: 47 @42720 has 26 MA's), (Start: 73 @42816 has 3 MA's), (83, 42858), (101, 42930), (104, 42942), (115, 42978), (138, 43092), (159, 43164),

Gene: AnarQue\_18 Start: 15267, Stop: 15728, Start Num: 51

Candidate Starts for AnarQue\_18:

(11, 15003), (13, 15024), (17, 15069), (31, 15186), (Start: 51 @15267 has 6 MA's), (101, 15441), (108, 15471), (117, 15495), (136, 15597), (149, 15636), (156, 15657), (157, 15666),

Gene: Arbiter\_19 Start: 16765, Stop: 17247, Start Num: 54

Candidate Starts for Arbiter\_19:

(Start: 54 @16765 has 29 MA's), (60, 16780), (Start: 64 @16792 has 24 MA's), (75, 16852), (77, 16858), (82, 16879), (83, 16882), (105, 16963), (113, 16987), (117, 17002), (121, 17035), (135, 17101), (157, 17188), (158, 17194), (164, 17233),

Gene: Ares\_19 Start: 16678, Stop: 17160, Start Num: 54

Candidate Starts for Ares\_19:

(Start: 54 @16678 has 29 MA's), (60, 16693), (Start: 64 @16705 has 24 MA's), (75, 16765), (77, 16771), (82, 16792), (83, 16795), (105, 16876), (113, 16900), (117, 16915), (121, 16948), (135, 17014), (157, 17101), (158, 17107), (164, 17146),

Gene: Argie\_14 Start: 14794, Stop: 15258, Start Num: 56

Candidate Starts for Argie\_14:

(25, 14704), (32, 14737), (Start: 37 @14770 has 1 MA's), (Start: 56 @14794 has 7 MA's), (67, 14827), (Start: 70 @14845 has 1 MA's), (74, 14875), (79, 14890), (91, 14935), (95, 14950), (100, 14971), (101, 14974), (103, 14983), (110, 15007), (112, 15010), (114, 15016), (117, 15028), (127, 15100), (128, 15103), (134, 15121), (138, 15136), (156, 15190), (157, 15199),

Gene: Athena\_20 Start: 16224, Stop: 16703, Start Num: 59

Candidate Starts for Athena\_20:

(15, 16017), (17, 16035), (39, 16194), (Start: 59 @16224 has 52 MA's), (Start: 73 @16287 has 3 MA's), (75, 16299), (76, 16302), (93, 16362), (107, 16416), (110, 16428), (112, 16431), (118, 16452), (127, 16521), (128, 16524), (138, 16557), (156, 16611), (157, 16620),

Gene: Attis\_22 Start: 18967, Stop: 19413, Start Num: 64

Candidate Starts for Attis\_22:

(12, 18670), (18, 18724), (23, 18805), (27, 18826), (55, 18943), (Start: 64 @18967 has 24 MA's), (79, 19042), (101, 19123), (102, 19129), (105, 19138), (110, 19156), (118, 19180), (132, 19243), (141, 19270), (143, 19276), (153, 19306), (157, 19324), (159, 19333), (160, 19336), (166, 19375),

Gene: Audrey\_19 Start: 15461, Stop: 15940, Start Num: 59

Candidate Starts for Audrey\_19:

(15, 15254), (17, 15272), (39, 15431), (Start: 59 @15461 has 52 MA's), (Start: 73 @15524 has 3 MA's), (75, 15536), (76, 15539), (93, 15599), (107, 15653), (110, 15665), (112, 15668), (118, 15689), (127, 15758), (128, 15761), (138, 15794), (156, 15848), (157, 15857),

Gene: Austin\_41 Start: 40831, Stop: 41301, Start Num: 44

Candidate Starts for Austin\_41:

(Start: 44 @40831 has 25 MA's), (Start: 73 @40903 has 3 MA's), (83, 40945), (85, 40951), (101, 41014), (108, 41044), (117, 41068), (124, 41128), (128, 41143), (155, 41227), (165, 41287),

Gene: Axumite\_16 Start: 13799, Stop: 14290, Start Num: 45

Candidate Starts for Axumite\_16:

(6, 13475), (14, 13577), (Start: 45 @13799 has 10 MA's), (63, 13841), (75, 13904), (92, 13964), (101, 14003), (138, 14165), (142, 14171), (149, 14198), (156, 14219), (158, 14237), (163, 14270), (165, 14279),

Gene: Baloo\_19 Start: 15458, Stop: 15937, Start Num: 59

Candidate Starts for Baloo\_19:

(15, 15251), (17, 15269), (39, 15428), (Start: 59 @15458 has 52 MA's), (Start: 73 @15521 has 3 MA's), (75, 15533), (76, 15536), (93, 15596), (107, 15650), (110, 15662), (112, 15665), (118, 15686), (127, 15755), (128, 15758), (138, 15791), (156, 15845), (157, 15854),

Gene: Bananafish\_19 Start: 16675, Stop: 17157, Start Num: 54

Candidate Starts for Bananafish\_19:

(Start: 54 @16675 has 29 MA's), (Start: 64 @16702 has 24 MA's), (75, 16762), (77, 16768), (82, 16789), (83, 16792), (105, 16873), (113, 16897), (117, 16912), (121, 16945), (135, 17011), (157, 17098), (158, 17104), (164, 17143),

Gene: Beaver\_41 Start: 42216, Stop: 42767, Start Num: 44

Candidate Starts for Beaver\_41:

(Start: 44 @42216 has 25 MA's), (Start: 47 @42225 has 26 MA's), (97, 42420), (104, 42447), (108, 42465), (115, 42483), (121, 42522), (131, 42573), (134, 42582), (159, 42669), (165, 42708),

Gene: Ben11\_18 Start: 15285, Stop: 15764, Start Num: 59

Candidate Starts for Ben11\_18:

(15, 15078), (17, 15096), (39, 15255), (Start: 59 @15285 has 52 MA's), (Start: 73 @15348 has 3 MA's), (75, 15360), (76, 15363), (93, 15423), (107, 15477), (110, 15489), (112, 15492), (118, 15513), (127, 15582), (128, 15585), (138, 15618), (156, 15672), (157, 15681),

Gene: BenoitCattle\_38 Start: 40274, Stop: 40825, Start Num: 44

Candidate Starts for BenoitCattle\_38:

(Start: 44 @40274 has 25 MA's), (Start: 47 @40283 has 26 MA's), (74, 40388), (97, 40478), (104, 40505), (107, 40514), (115, 40541), (131, 40631), (154, 40703), (159, 40727), (165, 40766),

Gene: Bernardo\_19 Start: 15460, Stop: 15939, Start Num: 59

Candidate Starts for Bernardo\_19:

(1, 14671), (8, 15148), (11, 15205), (15, 15253), (17, 15271), (39, 15430), (Start: 59 @15460 has 52 MA's), (Start: 73 @15523 has 3 MA's), (75, 15535), (76, 15538), (93, 15598), (107, 15652), (110, 15664), (112, 15667), (118, 15688), (127, 15757), (128, 15760), (138, 15793), (156, 15847), (157, 15856),

Gene: Berries\_39 Start: 42787, Stop: 43230, Start Num: 73

Candidate Starts for Berries\_39:

(11, 42442), (16, 42505), (21, 42541), (22, 42550), (Start: 44 @42682 has 25 MA's), (Start: 47 @42691 has 26 MA's), (Start: 73 @42787 has 3 MA's), (83, 42829), (101, 42901), (104, 42913), (115, 42949), (126, 43024), (138, 43063), (159, 43135),

Gene: Beyoncage\_32 Start: 27977, Stop: 28465, Start Num: 52

Candidate Starts for Beyoncage\_32:

(Start: 52 @27977 has 7 MA's), (75, 28073), (82, 28100), (87, 28115), (101, 28169), (104, 28181), (110, 28199), (118, 28223), (123, 28256), (125, 28265), (131, 28283), (153, 28355), (159, 28382), (162, 28400), (169, 28445),

Gene: Bianmat\_38 Start: 42731, Stop: 43270, Start Num: 47

Candidate Starts for Bianmat\_38:

(11, 42482), (16, 42545), (21, 42581), (22, 42590), (Start: 44 @42722 has 25 MA's), (Start: 47 @42731 has 26 MA's), (Start: 73 @42827 has 3 MA's), (83, 42869), (101, 42941), (104, 42953), (115, 42989), (126, 43064), (138, 43103), (159, 43175),

Gene: BiggityBass\_15 Start: 13731, Stop: 14201, Start Num: 45

Candidate Starts for BiggityBass\_15:

(6, 13407), (Start: 45 @13731 has 10 MA's), (63, 13752), (65, 13755), (81, 13833), (82, 13842), (88, 13863), (102, 13920), (122, 14013), (126, 14037), (132, 14055), (136, 14070), (138, 14076), (140, 14079), (149, 14109), (156, 14130),

Gene: BirdsNest\_21 Start: 14755, Stop: 15255, Start Num: 59

Candidate Starts for BirdsNest\_21:

(7, 14425), (8, 14446), (17, 14569), (Start: 59 @14755 has 52 MA's), (66, 14773), (68, 14785), (76, 14830), (94, 14896), (103, 14932), (108, 14953), (120, 15007), (131, 15109), (156, 15187),

Gene: BirksAndSocks\_41 Start: 42203, Stop: 42745, Start Num: 47

Candidate Starts for BirksAndSocks\_41:

(Start: 44 @42194 has 25 MA's), (Start: 47 @42203 has 26 MA's), (74, 42308), (97, 42398), (104, 42425), (108, 42443), (112, 42449), (115, 42461), (121, 42500), (131, 42551), (134, 42560), (154, 42623), (159, 42647), (165, 42686),

Gene: BiteSize\_32 Start: 27977, Stop: 28465, Start Num: 52

Candidate Starts for BiteSize\_32:

(Start: 52 @27977 has 7 MA's), (75, 28073), (82, 28100), (87, 28115), (101, 28169), (104, 28181), (110, 28199), (118, 28223), (123, 28256), (125, 28265), (131, 28283), (153, 28355), (159, 28382), (162, 28400), (169, 28445),

Gene: Bjanes7\_22 Start: 18967, Stop: 19413, Start Num: 64

Candidate Starts for Bjaner7\_22:

(12, 18670), (18, 18724), (23, 18805), (27, 18826), (55, 18943), (Start: 64 @18967 has 24 MA's), (79, 19042), (101, 19123), (102, 19129), (105, 19138), (110, 19156), (118, 19180), (132, 19243), (141, 19270), (143, 19276), (153, 19306), (157, 19324), (159, 19333), (160, 19336), (166, 19375),

Gene: Blocker23\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for Blocker23\_19:

(Start: 54 @16795 has 29 MA's), (Start: 64 @16822 has 24 MA's), (75, 16882), (77, 16888), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: BlueNGold\_113 Start: 70121, Stop: 70600, Start Num: 49

Candidate Starts for BlueNGold\_113:

(Start: 49 @70121 has 6 MA's), (Start: 73 @70202 has 3 MA's), (75, 70214), (79, 70226), (113, 70346), (118, 70364), (127, 70412), (129, 70418), (162, 70538),

Gene: Boneham\_41 Start: 42202, Stop: 42744, Start Num: 47

Candidate Starts for Boneham\_41:

(Start: 44 @42193 has 25 MA's), (Start: 47 @42202 has 26 MA's), (97, 42397), (104, 42424), (108, 42442), (115, 42460), (121, 42499), (131, 42550), (134, 42559), (165, 42685),

Gene: Boopy\_114 Start: 70133, Stop: 70612, Start Num: 49

Candidate Starts for Boopy\_114:

(Start: 49 @70133 has 6 MA's), (Start: 73 @70214 has 3 MA's), (75, 70226), (79, 70238), (113, 70358), (118, 70376), (127, 70424), (129, 70430), (162, 70550),

Gene: Boyle\_19 Start: 16796, Stop: 17278, Start Num: 54

Candidate Starts for Boyle\_19:

(Start: 54 @16796 has 29 MA's), (60, 16811), (Start: 64 @16823 has 24 MA's), (75, 16883), (77, 16889), (82, 16910), (83, 16913), (105, 16994), (113, 17018), (117, 17033), (121, 17066), (135, 17132), (157, 17219), (158, 17225), (164, 17264),

Gene: Breezic\_37 Start: 40191, Stop: 40733, Start Num: 47

Candidate Starts for Breezic\_37:

(Start: 44 @40182 has 25 MA's), (Start: 47 @40191 has 26 MA's), (97, 40386), (104, 40413), (108, 40431), (115, 40449), (121, 40488), (131, 40539), (134, 40548), (140, 40566), (159, 40635), (165, 40674),

Gene: Briakila\_19 Start: 16226, Stop: 16705, Start Num: 59

Candidate Starts for Briakila\_19:

(15, 16019), (17, 16037), (39, 16196), (Start: 59 @16226 has 52 MA's), (Start: 73 @16289 has 3 MA's), (75, 16301), (76, 16304), (93, 16364), (107, 16418), (110, 16430), (112, 16433), (118, 16454), (127, 16523), (128, 16526), (138, 16559), (156, 16613), (157, 16622),

Gene: Brownie5\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for Brownie5\_19:

(Start: 54 @16795 has 29 MA's), (60, 16810), (Start: 64 @16822 has 24 MA's), (75, 16882), (77, 16888), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: Butterball\_41 Start: 42193, Stop: 42744, Start Num: 44

Candidate Starts for Butterball\_41:

(Start: 44 @42193 has 25 MA's), (Start: 47 @42202 has 26 MA's), (97, 42397), (104, 42424), (108, 42442), (115, 42460), (121, 42499), (131, 42550), (134, 42559), (165, 42685),

Gene: CRB2\_20 Start: 17008, Stop: 17514, Start Num: 59

Candidate Starts for CRB2\_20:

(7, 16678), (8, 16699), (20, 16837), (Start: 59 @17008 has 52 MA's), (62, 17014), (66, 17026), (72, 17056), (77, 17086), (92, 17140), (94, 17149), (102, 17182), (131, 17368), (132, 17371), (144, 17404), (146, 17413), (153, 17437), (154, 17440), (156, 17446),

Gene: CaiB\_18 Start: 15252, Stop: 15713, Start Num: 51

Candidate Starts for CaiB\_18:

(11, 14988), (13, 15009), (14, 15021), (Start: 51 @15252 has 6 MA's), (101, 15426), (108, 15456), (117, 15480), (149, 15621), (156, 15642), (157, 15651),

Gene: Calamitous\_19 Start: 16675, Stop: 17157, Start Num: 54

Candidate Starts for Calamitous\_19:

(Start: 54 @16675 has 29 MA's), (60, 16690), (Start: 64 @16702 has 24 MA's), (75, 16762), (82, 16789), (83, 16792), (105, 16873), (113, 16897), (117, 16912), (121, 16945), (135, 17011), (157, 17098), (158, 17104), (164, 17143),

Gene: Casbah\_18 Start: 15313, Stop: 15792, Start Num: 59

Candidate Starts for Casbah\_18:

(15, 15106), (17, 15124), (Start: 59 @15313 has 52 MA's), (Start: 73 @15376 has 3 MA's), (75, 15388), (76, 15391), (93, 15451), (107, 15505), (110, 15517), (112, 15520), (118, 15541), (127, 15610), (128, 15613), (138, 15646), (156, 15700), (157, 15709),

Gene: CathyBurgh\_37 Start: 41036, Stop: 41587, Start Num: 44

Candidate Starts for CathyBurgh\_37:

(Start: 44 @41036 has 25 MA's), (Start: 47 @41045 has 26 MA's), (97, 41240), (104, 41267), (108, 41285), (115, 41303), (121, 41342), (131, 41393), (134, 41402), (140, 41420), (159, 41489), (165, 41528),

Gene: Cepens\_13 Start: 14518, Stop: 14982, Start Num: 56

Candidate Starts for Cepens\_13:

(25, 14428), (32, 14461), (Start: 37 @14494 has 1 MA's), (Start: 56 @14518 has 7 MA's), (67, 14551), (Start: 70 @14569 has 1 MA's), (74, 14599), (79, 14614), (91, 14659), (95, 14674), (100, 14695), (101, 14698), (103, 14707), (110, 14731), (112, 14734), (114, 14740), (117, 14752), (127, 14824), (128, 14827), (134, 14845), (138, 14860), (157, 14923),

Gene: ChaChing\_19 Start: 15476, Stop: 15955, Start Num: 59

Candidate Starts for ChaChing\_19:

(15, 15269), (17, 15287), (39, 15446), (Start: 59 @15476 has 52 MA's), (Start: 73 @15539 has 3 MA's), (75, 15551), (76, 15554), (93, 15614), (107, 15668), (110, 15680), (112, 15683), (118, 15704), (127, 15773), (128, 15776), (138, 15809), (156, 15863), (157, 15872),

Gene: Chandler\_19 Start: 16235, Stop: 16714, Start Num: 59

Candidate Starts for Chandler\_19:

(15, 16028), (17, 16046), (39, 16205), (Start: 59 @16235 has 52 MA's), (Start: 73 @16298 has 3 MA's), (75, 16310), (76, 16313), (93, 16373), (107, 16427), (110, 16439), (112, 16442), (118, 16463), (127, 16532), (128, 16535), (138, 16568), (156, 16622), (157, 16631),

Gene: Charianelly\_38 Start: 42537, Stop: 42980, Start Num: 73

Candidate Starts for Charianelly\_38:



(11, 42192), (16, 42255), (21, 42291), (22, 42300), (Start: 44 @42432 has 25 MA's), (Start: 47 @42441 has 26 MA's), (Start: 73 @42537 has 3 MA's), (83, 42579), (101, 42651), (104, 42663), (115, 42699), (126, 42774), (138, 42813), (159, 42885),

Gene: CharlottesWeb\_16 Start: 13751, Stop: 14200, Start Num: 63

Candidate Starts for CharlottesWeb\_16:

(Start: 45 @13709 has 10 MA's), (63, 13751), (75, 13814), (92, 13874), (101, 13913), (135, 14066), (138, 14075), (142, 14081), (149, 14108), (156, 14129), (158, 14147), (165, 14189),

Gene: Chelms\_37 Start: 40291, Stop: 40833, Start Num: 47

Candidate Starts for Chelms\_37:

(Start: 44 @40282 has 25 MA's), (Start: 47 @40291 has 26 MA's), (74, 40396), (104, 40513), (106, 40519), (115, 40549), (159, 40735), (165, 40774),

Gene: CherryTomatoes\_87 Start: 32399, Stop: 32872, Start Num: 43

Candidate Starts for CherryTomatoes\_87:

(Start: 43 @32399 has 1 MA's), (Start: 45 @32405 has 10 MA's), (69, 32453), (Start: 70 @32456 has 1 MA's), (75, 32489), (77, 32495), (80, 32504), (85, 32525), (104, 32600), (108, 32618), (117, 32642), (132, 32729), (133, 32732), (138, 32750), (142, 32756), (150, 32786), (161, 32831), (165, 32861),

Gene: Clap\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Clap\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: CloverMinnie\_18 Start: 15192, Stop: 15653, Start Num: 51

Candidate Starts for CloverMinnie\_18:

(Start: 51 @15192 has 6 MA's), (69, 15237), (82, 15300), (92, 15333), (101, 15366), (108, 15396), (117, 15420), (136, 15522), (149, 15561), (156, 15582),

Gene: Coffee\_19 Start: 16819, Stop: 17274, Start Num: 64

Candidate Starts for Coffee\_19:

(Start: 54 @16792 has 29 MA's), (60, 16807), (Start: 64 @16819 has 24 MA's), (75, 16879), (77, 16885), (82, 16906), (83, 16909), (105, 16990), (113, 17014), (117, 17029), (121, 17062), (135, 17128), (157, 17215), (158, 17221), (164, 17260),

Gene: Compostia\_20 Start: 15894, Stop: 16373, Start Num: 59

Candidate Starts for Compostia\_20:

(15, 15687), (17, 15705), (39, 15864), (Start: 59 @15894 has 52 MA's), (Start: 73 @15957 has 3 MA's), (75, 15969), (76, 15972), (93, 16032), (107, 16086), (110, 16098), (112, 16101), (118, 16122), (127, 16191), (128, 16194), (138, 16227), (156, 16281), (157, 16290),

Gene: Corofin\_19 Start: 15486, Stop: 15965, Start Num: 59

Candidate Starts for Corofin\_19:

(15, 15279), (17, 15297), (39, 15456), (Start: 59 @15486 has 52 MA's), (Start: 73 @15549 has 3 MA's), (75, 15561), (76, 15564), (93, 15624), (107, 15678), (110, 15690), (112, 15693), (118, 15714), (127, 15783), (128, 15786), (138, 15819), (156, 15873), (157, 15882),

Gene: Cynthia\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Cynthia\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157,

19331), (159, 19340), (160, 19343), (166, 19382),

Gene: D12\_13 Start: 14511, Stop: 14975, Start Num: 56

Candidate Starts for D12\_13:

(25, 14421), (32, 14454), (Start: 37 @14487 has 1 MA's), (Start: 56 @14511 has 7 MA's), (67, 14544), (Start: 70 @14562 has 1 MA's), (74, 14592), (79, 14607), (95, 14667), (100, 14688), (101, 14691), (108, 14721), (110, 14724), (112, 14727), (114, 14733), (117, 14745), (127, 14817), (128, 14820), (134, 14838), (138, 14853), (156, 14907), (157, 14916),

Gene: Daisy\_19 Start: 15482, Stop: 15961, Start Num: 59

Candidate Starts for Daisy\_19:

(15, 15275), (17, 15293), (39, 15452), (Start: 59 @15482 has 52 MA's), (Start: 73 @15545 has 3 MA's), (75, 15557), (76, 15560), (93, 15620), (107, 15674), (110, 15686), (112, 15689), (118, 15710), (127, 15779), (128, 15782), (138, 15815), (156, 15869), (157, 15878),

Gene: Dakiti\_37 Start: 41159, Stop: 41701, Start Num: 47

Candidate Starts for Dakiti\_37:

(Start: 44 @41150 has 25 MA's), (Start: 47 @41159 has 26 MA's), (74, 41264), (104, 41381), (106, 41387), (115, 41417), (159, 41603), (165, 41642),

Gene: Damp\_38 Start: 41701, Stop: 42144, Start Num: 73

Candidate Starts for Damp\_38:

(11, 41356), (16, 41419), (21, 41455), (22, 41464), (Start: 44 @41596 has 25 MA's), (Start: 47 @41605 has 26 MA's), (Start: 73 @41701 has 3 MA's), (83, 41743), (101, 41815), (104, 41827), (115, 41863), (138, 41977), (159, 42049),

Gene: Deenasa\_19 Start: 16224, Stop: 16703, Start Num: 59

Candidate Starts for Deenasa\_19:

(15, 16017), (17, 16035), (39, 16194), (Start: 59 @16224 has 52 MA's), (Start: 73 @16287 has 3 MA's), (75, 16299), (76, 16302), (93, 16362), (107, 16416), (110, 16428), (112, 16431), (118, 16452), (127, 16521), (128, 16524), (138, 16557), (156, 16611), (157, 16620),

Gene: Devonte\_19 Start: 15461, Stop: 15940, Start Num: 59

Candidate Starts for Devonte\_19:

(1, 14672), (2, 14708), (8, 15149), (11, 15206), (15, 15254), (17, 15272), (39, 15431), (Start: 59 @15461 has 52 MA's), (Start: 73 @15524 has 3 MA's), (75, 15536), (76, 15539), (93, 15599), (101, 15632), (110, 15665), (112, 15668), (113, 15671), (118, 15689), (127, 15758), (128, 15761), (138, 15794), (156, 15848), (157, 15857),

Gene: Diabla\_40 Start: 42040, Stop: 42582, Start Num: 47

Candidate Starts for Diabla\_40:

(Start: 44 @42031 has 25 MA's), (Start: 47 @42040 has 26 MA's), (82, 42175), (97, 42235), (101, 42250), (104, 42262), (114, 42292), (115, 42298), (131, 42388), (134, 42397), (154, 42460), (159, 42484), (165, 42523),

Gene: DirtyBoi\_26 Start: 21617, Stop: 22063, Start Num: 64

Candidate Starts for DirtyBoi\_26:

(55, 21593), (Start: 64 @21617 has 24 MA's), (79, 21692), (89, 21728), (101, 21773), (102, 21779), (105, 21788), (118, 21830), (132, 21893), (141, 21920), (143, 21926), (157, 21974), (159, 21983), (160, 21986), (166, 22025),

Gene: Djokovic\_32 Start: 27976, Stop: 28464, Start Num: 52

Candidate Starts for Djokovic\_32:

(Start: 52 @27976 has 7 MA's), (75, 28072), (82, 28099), (87, 28114), (101, 28168), (104, 28180), (110, 28198), (118, 28222), (123, 28255), (125, 28264), (131, 28282), (153, 28354), (159, 28381), (162, 28399), (169, 28444),

Gene: Dori\_15 Start: 12459, Stop: 12911, Start Num: 59

Candidate Starts for Dori\_15:

(40, 12435), (Start: 59 @12459 has 52 MA's), (74, 12528), (75, 12531), (76, 12534), (77, 12537), (84, 12564), (113, 12666), (117, 12681), (126, 12750), (128, 12756), (136, 12783), (154, 12837), (156, 12843), (160, 12864), (161, 12870),

Gene: DumpTruck\_35 Start: 30398, Stop: 30886, Start Num: 49

Candidate Starts for DumpTruck\_35:

(24, 30284), (28, 30299), (29, 30311), (30, 30314), (33, 30323), (42, 30374), (Start: 49 @30398 has 6 MA's), (Start: 73 @30488 has 3 MA's), (79, 30512), (110, 30626), (116, 30644), (118, 30650), (127, 30698), (131, 30710), (137, 30731), (145, 30755), (157, 30797), (165, 30845),

Gene: Eaglehorse\_19 Start: 16699, Stop: 17181, Start Num: 54

Candidate Starts for Eaglehorse\_19:

(Start: 54 @16699 has 29 MA's), (60, 16714), (Start: 64 @16726 has 24 MA's), (75, 16786), (77, 16792), (82, 16813), (83, 16816), (105, 16897), (113, 16921), (117, 16936), (121, 16969), (135, 17035), (157, 17122), (158, 17128), (164, 17167),

Gene: Ebert\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Ebert\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Ekhein\_38 Start: 40164, Stop: 40715, Start Num: 44

Candidate Starts for Ekhein\_38:

(Start: 44 @40164 has 25 MA's), (Start: 47 @40173 has 26 MA's), (97, 40368), (104, 40395), (108, 40413), (115, 40431), (121, 40470), (131, 40521), (134, 40530), (159, 40617), (165, 40656),

Gene: Evaa\_17 Start: 15092, Stop: 15559, Start Num: 45

Candidate Starts for Evaa\_17:

(14, 14870), (17, 14903), (39, 15062), (Start: 45 @15092 has 10 MA's), (75, 15176), (86, 15215), (99, 15263), (101, 15272), (102, 15278), (126, 15395), (136, 15428), (138, 15434), (156, 15488), (158, 15506), (161, 15518),

Gene: Exiguo\_37 Start: 40185, Stop: 40727, Start Num: 47

Candidate Starts for Exiguo\_37:

(Start: 44 @40176 has 25 MA's), (Start: 47 @40185 has 26 MA's), (97, 40380), (104, 40407), (108, 40425), (115, 40443), (121, 40482), (131, 40533), (134, 40542), (140, 40560), (159, 40629), (165, 40668),

Gene: Faze9\_19 Start: 16792, Stop: 17274, Start Num: 54

Candidate Starts for Faze9\_19:

(Start: 54 @16792 has 29 MA's), (60, 16807), (75, 16879), (77, 16885), (82, 16906), (83, 16909), (105, 16990), (113, 17014), (117, 17029), (121, 17062), (135, 17128), (157, 17215), (158, 17221),

Gene: FelixAlejandro\_42 Start: 42391, Stop: 42942, Start Num: 44

Candidate Starts for FelixAlejandro\_42:

(Start: 44 @42391 has 25 MA's), (Start: 47 @42400 has 26 MA's), (97, 42595), (104, 42622), (108, 42640), (115, 42658), (121, 42697), (131, 42748), (134, 42757), (165, 42883),

Gene: Flakey\_37 Start: 41040, Stop: 41591, Start Num: 44

Candidate Starts for Flakey\_37:

(Start: 44 @41040 has 25 MA's), (Start: 47 @41049 has 26 MA's), (97, 41244), (104, 41271), (108, 41289), (115, 41307), (121, 41346), (131, 41397), (134, 41406), (165, 41532),

Gene: Forza\_114 Start: 70049, Stop: 70528, Start Num: 49

Candidate Starts for Forza\_114:

(Start: 49 @70049 has 6 MA's), (Start: 73 @70130 has 3 MA's), (75, 70142), (79, 70154), (113, 70274), (118, 70292), (127, 70340), (129, 70346), (162, 70466),

Gene: FrenchFry\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for FrenchFry\_19:

(Start: 54 @16795 has 29 MA's), (60, 16810), (Start: 64 @16822 has 24 MA's), (75, 16882), (77, 16888), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: Fresco\_16 Start: 13799, Stop: 14290, Start Num: 45

Candidate Starts for Fresco\_16:

(6, 13475), (14, 13577), (Start: 45 @13799 has 10 MA's), (63, 13841), (75, 13904), (92, 13964), (101, 14003), (138, 14165), (142, 14171), (149, 14198), (156, 14219), (158, 14237), (163, 14270), (165, 14279),

Gene: GMA1\_22 Start: 18858, Stop: 19307, Start Num: 67

Candidate Starts for GMA1\_22:

(67, 18858), (89, 18960), (101, 19005), (119, 19071), (134, 19128), (156, 19197), (159, 19215), (170, 19281),

Gene: GMA2\_41 Start: 42741, Stop: 43205, Start Num: 70

Candidate Starts for GMA2\_41:

(Start: 37 @42633 has 1 MA's), (50, 42678), (Start: 70 @42741 has 1 MA's), (74, 42771), (81, 42792), (83, 42804), (86, 42813), (89, 42822), (98, 42855), (99, 42858), (108, 42897), (112, 42903), (118, 42924), (138, 43008), (145, 43026), (171, 43155),

Gene: GMA7\_31 Start: 35045, Stop: 35515, Start Num: 44

Candidate Starts for GMA7\_31:

(9, 34763), (11, 34811), (16, 34871), (22, 34916), (Start: 44 @35045 has 25 MA's), (Start: 73 @35117 has 3 MA's), (83, 35159), (85, 35165), (101, 35228), (117, 35282), (124, 35342), (128, 35357), (155, 35441), (165, 35501),

Gene: GTE7\_30 Start: 35076, Stop: 35546, Start Num: 44

Candidate Starts for GTE7\_30:

(9, 34794), (11, 34842), (16, 34902), (22, 34947), (Start: 44 @35076 has 25 MA's), (Start: 73 @35148 has 3 MA's), (83, 35190), (85, 35196), (101, 35259), (108, 35289), (117, 35313), (124, 35373), (128, 35388), (155, 35472), (165, 35532),

Gene: Gadget\_20 Start: 15465, Stop: 15944, Start Num: 59

Candidate Starts for Gadget\_20:

(15, 15258), (17, 15276), (39, 15435), (Start: 59 @15465 has 52 MA's), (Start: 73 @15528 has 3 MA's), (75, 15540), (76, 15543), (93, 15603), (107, 15657), (110, 15669), (112, 15672), (118, 15693), (127, 15762), (128, 15765), (138, 15798), (156, 15852), (157, 15861),

Gene: GalacticEye\_38 Start: 42403, Stop: 42942, Start Num: 47

Candidate Starts for GalacticEye\_38:

(11, 42154), (16, 42217), (21, 42253), (22, 42262), (Start: 44 @42394 has 25 MA's), (Start: 47 @42403 has 26 MA's), (Start: 73 @42499 has 3 MA's), (83, 42541), (101, 42613), (104, 42625), (115, 42661), (138, 42775), (159, 42847),

Gene: GemG\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for GemG\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Gervas\_19 Start: 15444, Stop: 15923, Start Num: 59

Candidate Starts for Gervas\_19:

(15, 15237), (17, 15255), (39, 15414), (Start: 59 @15444 has 52 MA's), (Start: 73 @15507 has 3 MA's), (75, 15519), (76, 15522), (93, 15582), (107, 15636), (110, 15648), (112, 15651), (118, 15672), (127, 15741), (128, 15744), (138, 15777), (156, 15831), (157, 15840),

Gene: Gizermo\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Gizermo\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Glass\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for Glass\_19:

(Start: 54 @16795 has 29 MA's), (60, 16810), (Start: 64 @16822 has 24 MA's), (75, 16882), (77, 16888), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: GlenHope\_20 Start: 15451, Stop: 15930, Start Num: 59

Candidate Starts for GlenHope\_20:

(15, 15244), (17, 15262), (39, 15421), (Start: 59 @15451 has 52 MA's), (Start: 73 @15514 has 3 MA's), (75, 15526), (76, 15529), (93, 15589), (107, 15643), (110, 15655), (112, 15658), (118, 15679), (127, 15748), (128, 15751), (138, 15784), (156, 15838), (157, 15847),

Gene: GodPhather\_14 Start: 14752, Stop: 15240, Start Num: 37

Candidate Starts for GodPhather\_14:

(25, 14686), (32, 14719), (Start: 37 @14752 has 1 MA's), (Start: 56 @14776 has 7 MA's), (67, 14809), (Start: 70 @14827 has 1 MA's), (74, 14857), (79, 14872), (95, 14932), (100, 14953), (110, 14989), (112, 14992), (114, 14998), (117, 15010), (127, 15082), (128, 15085), (134, 15103), (138, 15118), (157, 15181),

Gene: Godines\_19 Start: 16690, Stop: 17172, Start Num: 54

Candidate Starts for Godines\_19:

(Start: 54 @16690 has 29 MA's), (60, 16705), (Start: 64 @16717 has 24 MA's), (75, 16777), (77, 16783), (82, 16804), (83, 16807), (105, 16888), (113, 16912), (117, 16927), (121, 16960), (135, 17026), (157, 17113), (158, 17119), (164, 17158),

Gene: GodonK\_100 Start: 60673, Stop: 61158, Start Num: 48

Candidate Starts for GodonK\_100:

(Start: 44 @60661 has 25 MA's), (Start: 48 @60673 has 1 MA's), (78, 60787), (82, 60805), (96, 60847), (101, 60868), (107, 60889), (111, 60901), (132, 60985), (134, 60991), (139, 61006), (151, 61042), (165, 61114),

Gene: Gorko\_37 Start: 40177, Stop: 40719, Start Num: 47

Candidate Starts for Gorko\_37:

(Start: 44 @40168 has 25 MA's), (Start: 47 @40177 has 26 MA's), (97, 40372), (104, 40399), (108, 40417), (115, 40435), (121, 40474), (131, 40525), (134, 40534), (165, 40660),

Gene: GourdThymes\_37 Start: 41051, Stop: 41593, Start Num: 47

Candidate Starts for GourdThymes\_37:

(Start: 44 @41042 has 25 MA's), (Start: 47 @41051 has 26 MA's), (97, 41246), (104, 41273), (108, 41291), (115, 41309), (121, 41348), (131, 41399), (134, 41408), (159, 41495), (165, 41534),

Gene: Guillaume\_38 Start: 42444, Stop: 42992, Start Num: 44

Candidate Starts for Guillaume\_38:

(11, 42204), (16, 42267), (21, 42303), (22, 42312), (Start: 44 @42444 has 25 MA's), (Start: 47 @42453 has 26 MA's), (Start: 73 @42549 has 3 MA's), (83, 42591), (101, 42663), (104, 42675), (115, 42711), (138, 42825), (159, 42897),

Gene: Hail2Pitt\_38 Start: 42929, Stop: 43468, Start Num: 47

Candidate Starts for Hail2Pitt\_38:

(11, 42680), (16, 42743), (21, 42779), (22, 42788), (Start: 44 @42920 has 25 MA's), (Start: 47 @42929 has 26 MA's), (Start: 73 @43025 has 3 MA's), (83, 43067), (101, 43139), (104, 43151), (115, 43187), (138, 43301), (159, 43373),

Gene: Haley23\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Haley23\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Halfpint\_18 Start: 15286, Stop: 15765, Start Num: 59

Candidate Starts for Halfpint\_18:

(15, 15079), (17, 15097), (39, 15256), (Start: 59 @15286 has 52 MA's), (Start: 73 @15349 has 3 MA's), (75, 15361), (76, 15364), (93, 15424), (107, 15478), (110, 15490), (112, 15493), (118, 15514), (127, 15583), (128, 15586), (138, 15619), (156, 15673), (157, 15682),

Gene: Harambe\_38 Start: 42711, Stop: 43259, Start Num: 44

Candidate Starts for Harambe\_38:

(11, 42471), (16, 42534), (21, 42570), (22, 42579), (Start: 44 @42711 has 25 MA's), (Start: 47 @42720 has 26 MA's), (Start: 73 @42816 has 3 MA's), (83, 42858), (101, 42930), (104, 42942), (115, 42978), (138, 43092), (159, 43164),

Gene: HarveySr\_19 Start: 15438, Stop: 15917, Start Num: 59

Candidate Starts for HarveySr\_19:

(15, 15231), (17, 15249), (39, 15408), (Start: 59 @15438 has 52 MA's), (Start: 73 @15501 has 3 MA's), (75, 15513), (76, 15516), (93, 15576), (107, 15630), (110, 15642), (112, 15645), (118, 15666), (127, 15735), (128, 15738), (138, 15771), (156, 15825), (157, 15834),

Gene: Hashim76\_21 Start: 14998, Stop: 15492, Start Num: 59

Candidate Starts for Hashim76\_21:

(7, 14668), (11, 14746), (15, 14794), (17, 14812), (58, 14995), (Start: 59 @14998 has 52 MA's), (61, 15001), (66, 15016), (75, 15070), (82, 15097), (108, 15196), (120, 15250), (132, 15349), (134, 15355), (136, 15364), (154, 15418), (156, 15424),

Gene: HayZem\_40 Start: 40828, Stop: 41298, Start Num: 44

Candidate Starts for HayZem\_40:

(9, 40546), (11, 40594), (16, 40654), (22, 40699), (Start: 44 @40828 has 25 MA's), (Start: 73 @40900 has 3 MA's), (83, 40942), (85, 40948), (101, 41011), (108, 41041), (117, 41065), (124, 41125), (128, 41140), (155, 41224), (165, 41284),

Gene: Heathcliff\_19 Start: 15423, Stop: 15902, Start Num: 59

Candidate Starts for Heathcliff\_19:

(1, 14634), (2, 14670), (8, 15111), (11, 15168), (15, 15216), (17, 15234), (39, 15393), (Start: 59 @15423 has 52 MA's), (Start: 73 @15486 has 3 MA's), (75, 15498), (76, 15501), (93, 15561), (101, 15594), (110, 15627), (112, 15630), (113, 15633), (118, 15651), (127, 15720), (128, 15723), (138, 15756), (156, 15810), (157, 15819),

Gene: Hedgerow\_19 Start: 16777, Stop: 17259, Start Num: 54

Candidate Starts for Hedgerow\_19:

(Start: 54 @16777 has 29 MA's), (60, 16792), (Start: 64 @16804 has 24 MA's), (75, 16864), (77, 16870), (82, 16891), (83, 16894), (105, 16975), (113, 16999), (117, 17014), (121, 17047), (135, 17113), (157, 17200), (158, 17206), (164, 17245),

Gene: Hedwig\_26 Start: 21613, Stop: 22059, Start Num: 64

Candidate Starts for Hedwig\_26:

(55, 21589), (Start: 64 @21613 has 24 MA's), (79, 21688), (89, 21724), (101, 21769), (102, 21775), (105, 21784), (118, 21826), (132, 21889), (141, 21916), (143, 21922), (157, 21970), (159, 21979), (160, 21982), (166, 22021),

Gene: Hello\_38 Start: 42673, Stop: 43221, Start Num: 44

Candidate Starts for Hello\_38:

(11, 42433), (16, 42496), (21, 42532), (22, 42541), (Start: 44 @42673 has 25 MA's), (Start: 47 @42682 has 26 MA's), (Start: 73 @42778 has 3 MA's), (83, 42820), (101, 42892), (104, 42904), (115, 42940), (138, 43054), (159, 43126),

Gene: Holeinone\_19 Start: 16677, Stop: 17159, Start Num: 54

Candidate Starts for Holeinone\_19:

(Start: 54 @16677 has 29 MA's), (60, 16692), (Start: 64 @16704 has 24 MA's), (75, 16764), (82, 16791), (83, 16794), (105, 16875), (113, 16899), (117, 16914), (121, 16947), (135, 17013), (157, 17100), (158, 17106), (164, 17145),

Gene: Hosp\_012 Start: 12260, Stop: 12769, Start Num: 59

Candidate Starts for Hosp\_012:

(7, 11897), (8, 11918), (11, 11975), (39, 12200), (Start: 59 @12260 has 52 MA's), (66, 12281), (76, 12338), (82, 12362), (107, 12452), (108, 12461), (132, 12623), (136, 12638), (153, 12689), (156, 12698),

Gene: Hotorobo\_37 Start: 41047, Stop: 41598, Start Num: 44

Candidate Starts for Hotorobo\_37:

(Start: 44 @41047 has 25 MA's), (Start: 47 @41056 has 26 MA's), (97, 41251), (104, 41278), (108, 41296), (115, 41314), (121, 41353), (131, 41404), (134, 41413), (159, 41500), (165, 41539),

Gene: Imvubu\_13 Start: 13034, Stop: 13525, Start Num: 59

Candidate Starts for Imvubu\_13:

(7, 12686), (8, 12707), (11, 12764), (39, 12989), (Start: 59 @13034 has 52 MA's), (66, 13052), (75, 13106), (82, 13133), (102, 13208), (108, 13232), (118, 13259), (120, 13286), (122, 13340), (132, 13382), (136, 13397), (146, 13424), (153, 13448), (156, 13457),

Gene: ItsyBitsy1\_19 Start: 16669, Stop: 17151, Start Num: 54

Candidate Starts for ItsyBitsy1\_19:

(Start: 54 @16669 has 29 MA's), (60, 16684), (Start: 64 @16696 has 24 MA's), (75, 16756), (82, 16783), (83, 16786), (105, 16867), (113, 16891), (117, 16906), (121, 16939), (135, 17005), (157, 17092), (158, 17098), (164, 17137),

Gene: Jackstina\_18 Start: 15387, Stop: 15866, Start Num: 59

Candidate Starts for Jackstina\_18:

(15, 15180), (17, 15198), (39, 15357), (Start: 59 @15387 has 52 MA's), (Start: 73 @15450 has 3 MA's), (75, 15462), (76, 15465), (93, 15525), (107, 15579), (110, 15591), (112, 15594), (118, 15615), (127, 15684), (128, 15687), (138, 15720), (156, 15774), (157, 15783),

Gene: Jams\_38 Start: 41891, Stop: 42430, Start Num: 47

Candidate Starts for Jams\_38:

(11, 41642), (16, 41705), (21, 41741), (22, 41750), (Start: 44 @41882 has 25 MA's), (Start: 47 @41891 has 26 MA's), (Start: 73 @41987 has 3 MA's), (83, 42029), (101, 42101), (104, 42113), (115, 42149), (126, 42224), (138, 42263), (159, 42335),

Gene: Jellybones\_41 Start: 42252, Stop: 42803, Start Num: 44

Candidate Starts for Jellybones\_41:

(Start: 44 @42252 has 25 MA's), (Start: 47 @42261 has 26 MA's), (97, 42456), (104, 42483), (108, 42501), (115, 42519), (121, 42558), (131, 42609), (134, 42618), (159, 42705), (165, 42744),

Gene: Jeon\_13 Start: 14518, Stop: 14982, Start Num: 56

Candidate Starts for Jeon\_13:

(25, 14428), (32, 14461), (Start: 37 @14494 has 1 MA's), (Start: 56 @14518 has 7 MA's), (67, 14551), (Start: 70 @14569 has 1 MA's), (74, 14599), (79, 14614), (91, 14659), (95, 14674), (100, 14695), (110, 14731), (112, 14734), (114, 14740), (117, 14752), (127, 14824), (128, 14827), (134, 14845), (138, 14860), (156, 14914), (157, 14923),

Gene: John316\_41 Start: 42205, Stop: 42756, Start Num: 44

Candidate Starts for John316\_41:

(Start: 44 @42205 has 25 MA's), (Start: 47 @42214 has 26 MA's), (97, 42409), (104, 42436), (108, 42454), (115, 42472), (121, 42511), (131, 42562), (134, 42571), (140, 42589), (159, 42658), (165, 42697),

Gene: Jolie1\_014 Start: 14030, Stop: 14539, Start Num: 59

Candidate Starts for Jolie1\_014:

(7, 13676), (8, 13697), (11, 13754), (39, 13979), (Start: 59 @14030 has 52 MA's), (66, 14051), (68, 14063), (76, 14108), (82, 14132), (107, 14222), (108, 14231), (132, 14393), (136, 14408), (146, 14435), (153, 14459), (156, 14468),

Gene: Jormungandr\_38 Start: 42426, Stop: 42974, Start Num: 44

Candidate Starts for Jormungandr\_38:

(11, 42186), (16, 42249), (21, 42285), (22, 42294), (Start: 44 @42426 has 25 MA's), (Start: 47 @42435 has 26 MA's), (Start: 73 @42531 has 3 MA's), (83, 42573), (101, 42645), (104, 42657), (115, 42693), (138, 42807), (159, 42879),



Gene: Kaleb\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for Kaleb\_19:

(Start: 54 @16795 has 29 MA's), (60, 16810), (Start: 64 @16822 has 24 MA's), (75, 16882), (77, 16888), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: Kamiyu\_19 Start: 15432, Stop: 15911, Start Num: 59

Candidate Starts for Kamiyu\_19:

(15, 15225), (17, 15243), (39, 15402), (Start: 59 @15432 has 52 MA's), (Start: 73 @15495 has 3 MA's), (75, 15507), (76, 15510), (93, 15570), (107, 15624), (110, 15636), (112, 15639), (118, 15660), (127, 15729), (128, 15732), (138, 15765), (156, 15819), (157, 15828),

Gene: Kaseim\_39 Start: 41972, Stop: 42415, Start Num: 73

Candidate Starts for Kaseim\_39:

(11, 41627), (16, 41690), (21, 41726), (22, 41735), (Start: 44 @41867 has 25 MA's), (Start: 47 @41876 has 26 MA's), (Start: 73 @41972 has 3 MA's), (83, 42014), (101, 42086), (104, 42098), (115, 42134), (126, 42209), (138, 42248), (159, 42320),

Gene: KayaCho\_14 Start: 14048, Stop: 14557, Start Num: 59

Candidate Starts for KayaCho\_14:

(7, 13679), (8, 13700), (10, 13742), (39, 13982), (46, 14012), (Start: 59 @14048 has 52 MA's), (66, 14069), (76, 14126), (82, 14150), (108, 14249), (132, 14411), (140, 14435), (153, 14477), (156, 14486),

Gene: Kheth\_19 Start: 16678, Stop: 17160, Start Num: 54

Candidate Starts for Kheth\_19:

(Start: 54 @16678 has 29 MA's), (60, 16693), (Start: 64 @16705 has 24 MA's), (75, 16765), (77, 16771), (82, 16792), (83, 16795), (105, 16876), (113, 16900), (117, 16915), (121, 16948), (135, 17014), (157, 17101), (158, 17107), (164, 17146),

Gene: Kronus\_18 Start: 16044, Stop: 16523, Start Num: 59

Candidate Starts for Kronus\_18:

(15, 15837), (17, 15855), (39, 16014), (Start: 59 @16044 has 52 MA's), (Start: 73 @16107 has 3 MA's), (75, 16119), (76, 16122), (93, 16182), (107, 16236), (110, 16248), (112, 16251), (118, 16272), (127, 16341), (128, 16344), (138, 16377), (156, 16431), (157, 16440),

Gene: Lahirium\_38 Start: 42948, Stop: 43496, Start Num: 44

Candidate Starts for Lahirium\_38:

(11, 42708), (16, 42771), (21, 42807), (22, 42816), (Start: 44 @42948 has 25 MA's), (Start: 47 @42957 has 26 MA's), (Start: 73 @43053 has 3 MA's), (83, 43095), (101, 43167), (104, 43179), (115, 43215), (138, 43329), (159, 43401),

Gene: Lars\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for Lars\_19:

(Start: 54 @16795 has 29 MA's), (60, 16810), (Start: 64 @16822 has 24 MA's), (75, 16882), (77, 16888), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: Laurie\_19 Start: 16673, Stop: 17155, Start Num: 54

Candidate Starts for Laurie\_19:

(Start: 54 @16673 has 29 MA's), (60, 16688), (Start: 64 @16700 has 24 MA's), (75, 16760), (77, 16766), (82, 16787), (83, 16790), (105, 16871), (113, 16895), (117, 16910), (121, 16943), (135, 17009), (157, 17096), (158, 17102),

Gene: Lephleur\_19 Start: 16675, Stop: 17157, Start Num: 54

Candidate Starts for Lephleur\_19:

(Start: 54 @16675 has 29 MA's), (60, 16690), (Start: 64 @16702 has 24 MA's), (75, 16762), (82, 16789), (83, 16792), (105, 16873), (113, 16897), (117, 16912), (121, 16945), (135, 17011), (157, 17098), (158, 17104), (164, 17143),

Gene: LestyG\_19 Start: 15465, Stop: 15944, Start Num: 59

Candidate Starts for LestyG\_19:

(15, 15258), (17, 15276), (39, 15435), (Start: 59 @15465 has 52 MA's), (Start: 73 @15528 has 3 MA's), (75, 15540), (76, 15543), (93, 15603), (107, 15657), (110, 15669), (112, 15672), (118, 15693), (127, 15762), (128, 15765), (138, 15798), (156, 15852), (157, 15861),

Gene: Lidong\_38 Start: 42691, Stop: 43230, Start Num: 47

Candidate Starts for Lidong\_38:

(11, 42442), (16, 42505), (21, 42541), (22, 42550), (Start: 44 @42682 has 25 MA's), (Start: 47 @42691 has 26 MA's), (Start: 73 @42787 has 3 MA's), (83, 42829), (101, 42901), (104, 42913), (115, 42949), (126, 43024), (138, 43063), (159, 43135),

Gene: Ligma\_16 Start: 13799, Stop: 14290, Start Num: 45

Candidate Starts for Ligma\_16:

(6, 13475), (14, 13577), (Start: 45 @13799 has 10 MA's), (63, 13841), (75, 13904), (92, 13964), (101, 14003), (138, 14165), (142, 14171), (149, 14198), (156, 14219), (158, 14237), (163, 14270), (165, 14279),

Gene: LilyPad\_34 Start: 28783, Stop: 29271, Start Num: 52

Candidate Starts for LilyPad\_34:

(Start: 52 @28783 has 7 MA's), (95, 28951), (104, 28987), (114, 29014), (127, 29077), (131, 29089), (149, 29149), (153, 29161), (167, 29239),

Gene: Linetti\_38 Start: 41276, Stop: 41827, Start Num: 44

Candidate Starts for Linetti\_38:

(Start: 44 @41276 has 25 MA's), (Start: 47 @41285 has 26 MA's), (74, 41390), (104, 41507), (106, 41513), (115, 41543), (159, 41729), (165, 41768),

Gene: LittleFella\_35 Start: 30587, Stop: 31063, Start Num: 53

Candidate Starts for LittleFella\_35:

(Start: 53 @30587 has 1 MA's), (82, 30704), (103, 30782), (116, 30821), (118, 30827), (147, 30941), (153, 30959),

Gene: LittleMunchkin\_17 Start: 15243, Stop: 15710, Start Num: 45

Candidate Starts for LittleMunchkin\_17:

(6, 14919), (14, 15021), (39, 15213), (Start: 45 @15243 has 10 MA's), (67, 15276), (86, 15366), (101, 15423), (102, 15429), (138, 15585), (156, 15639), (158, 15657), (161, 15669),

Gene: LizLemon\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for LizLemon\_19:

(Start: 54 @16795 has 29 MA's), (60, 16810), (Start: 64 @16822 has 24 MA's), (75, 16882), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: Lizzo\_37 Start: 41045, Stop: 41587, Start Num: 47

Candidate Starts for Lizzo\_37:

(Start: 44 @41036 has 25 MA's), (Start: 47 @41045 has 26 MA's), (97, 41240), (104, 41267), (108, 41285), (115, 41303), (121, 41342), (131, 41393), (134, 41402), (140, 41420), (159, 41489), (165, 41528),

Gene: LordFarquaad\_22 Start: 18967, Stop: 19413, Start Num: 64

Candidate Starts for LordFarquaad\_22:

(12, 18670), (18, 18724), (23, 18805), (27, 18826), (55, 18943), (Start: 64 @18967 has 24 MA's), (79, 19042), (101, 19123), (102, 19129), (105, 19138), (110, 19156), (118, 19180), (132, 19243), (141, 19270), (143, 19276), (153, 19306), (157, 19324), (159, 19333), (160, 19336), (166, 19375),

Gene: Luker\_39 Start: 43006, Stop: 43449, Start Num: 73

Candidate Starts for Luker\_39:

(11, 42661), (16, 42724), (21, 42760), (22, 42769), (Start: 44 @42901 has 25 MA's), (Start: 47 @42910 has 26 MA's), (Start: 73 @43006 has 3 MA's), (83, 43048), (101, 43120), (104, 43132), (115, 43168), (126, 43243), (138, 43282), (159, 43354),

Gene: Madi\_32 Start: 27977, Stop: 28465, Start Num: 52

Candidate Starts for Madi\_32:

(Start: 52 @27977 has 7 MA's), (75, 28073), (104, 28181), (118, 28223), (123, 28256), (131, 28283), (153, 28355), (159, 28382), (161, 28391), (167, 28433),

Gene: Madraxi\_33 Start: 29919, Stop: 30368, Start Num: 61

Candidate Starts for Madraxi\_33:

(30, 29811), (61, 29919), (71, 29961), (74, 29988), (96, 30066), (100, 30084), (103, 30096), (104, 30099), (108, 30117), (124, 30195), (125, 30201), (127, 30207), (152, 30288), (162, 30342),

Gene: MakoManhole\_18 Start: 15270, Stop: 15731, Start Num: 51

Candidate Starts for MakoManhole\_18:

(Start: 51 @15270 has 6 MA's), (69, 15315), (82, 15378), (92, 15411), (101, 15444), (108, 15474), (117, 15498), (136, 15600), (149, 15639), (156, 15660),

Gene: Mao1\_14 Start: 12855, Stop: 13307, Start Num: 59

Candidate Starts for Mao1\_14:

(40, 12831), (Start: 59 @12855 has 52 MA's), (74, 12924), (75, 12927), (76, 12930), (77, 12933), (84, 12960), (113, 13062), (117, 13077), (126, 13146), (128, 13152), (136, 13179), (154, 13233), (156, 13239), (160, 13260), (161, 13266),

Gene: Mareelih\_112 Start: 69551, Stop: 70030, Start Num: 49

Candidate Starts for Mareelih\_112:

(Start: 49 @69551 has 6 MA's), (Start: 73 @69632 has 3 MA's), (75, 69644), (79, 69656), (113, 69776), (118, 69794), (127, 69842), (129, 69848), (162, 69968),

Gene: Mariokart\_16 Start: 13708, Stop: 14199, Start Num: 45

Candidate Starts for Mariokart\_16:

(Start: 45 @13708 has 10 MA's), (63, 13750), (75, 13813), (92, 13873), (99, 13903), (101, 13912), (135, 14065), (138, 14074), (142, 14080), (149, 14107), (154, 14122), (156, 14128), (158, 14146), (161, 14158), (165, 14188),

Gene: Marley1013\_19 Start: 16245, Stop: 16724, Start Num: 59

Candidate Starts for Marley1013\_19:

(15, 16038), (17, 16056), (39, 16215), (Start: 59 @16245 has 52 MA's), (Start: 73 @16308 has 3 MA's), (75, 16320), (76, 16323), (93, 16383), (107, 16437), (110, 16449), (112, 16452), (118, 16473), (127, 16542), (128, 16545), (138, 16578), (156, 16632), (157, 16641),

Gene: Mask\_15 Start: 12856, Stop: 13308, Start Num: 59

Candidate Starts for Mask\_15:

(40, 12832), (Start: 59 @12856 has 52 MA's), (74, 12925), (75, 12928), (76, 12931), (77, 12934), (84, 12961), (113, 13063), (117, 13078), (126, 13147), (128, 13153), (136, 13180), (154, 13234), (156, 13240), (160, 13261), (161, 13267),

Gene: MasterPo\_19 Start: 16675, Stop: 17157, Start Num: 54

Candidate Starts for MasterPo\_19:

(Start: 54 @16675 has 29 MA's), (Start: 64 @16702 has 24 MA's), (75, 16762), (82, 16789), (83, 16792), (105, 16873), (113, 16897), (117, 16912), (121, 16945), (135, 17011), (157, 17098), (158, 17104), (164, 17143),

Gene: Megabear\_13 Start: 14461, Stop: 14925, Start Num: 56

Candidate Starts for Megabear\_13:

(25, 14371), (32, 14404), (Start: 37 @14437 has 1 MA's), (Start: 56 @14461 has 7 MA's), (67, 14494), (Start: 70 @14512 has 1 MA's), (74, 14542), (79, 14557), (91, 14602), (95, 14617), (100, 14638), (101, 14641), (103, 14650), (110, 14674), (112, 14677), (114, 14683), (117, 14695), (127, 14767), (128, 14770), (134, 14788), (138, 14803), (156, 14857), (157, 14866),

Gene: Minos\_39 Start: 42433, Stop: 42972, Start Num: 47

Candidate Starts for Minos\_39:

(11, 42184), (16, 42247), (21, 42283), (22, 42292), (Start: 44 @42424 has 25 MA's), (Start: 47 @42433 has 26 MA's), (Start: 73 @42529 has 3 MA's), (83, 42571), (101, 42643), (104, 42655), (115, 42691), (126, 42766), (138, 42805), (159, 42877),

Gene: MmasiCarm\_19 Start: 15458, Stop: 15937, Start Num: 59

Candidate Starts for MmasiCarm\_19:

(15, 15251), (17, 15269), (39, 15428), (Start: 59 @15458 has 52 MA's), (Start: 73 @15521 has 3 MA's), (75, 15533), (76, 15536), (93, 15596), (107, 15650), (110, 15662), (112, 15665), (118, 15686), (127, 15755), (128, 15758), (138, 15791), (156, 15845), (157, 15854),

Gene: Mocha12\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Mocha12\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Monty\_36 Start: 40195, Stop: 40737, Start Num: 47

Candidate Starts for Monty\_36:

(Start: 44 @40186 has 25 MA's), (Start: 47 @40195 has 26 MA's), (97, 40390), (104, 40417), (108, 40435), (115, 40453), (121, 40492), (131, 40543), (134, 40552), (140, 40570), (159, 40639), (165, 40678),

Gene: Mortcellus\_18 Start: 16099, Stop: 16578, Start Num: 59

Candidate Starts for Mortcellus\_18:

(15, 15892), (17, 15910), (39, 16069), (Start: 59 @16099 has 52 MA's), (Start: 73 @16162 has 3 MA's), (75, 16174), (76, 16177), (93, 16237), (107, 16291), (110, 16303), (112, 16306), (118, 16327), (127, 16396), (128, 16399), (138, 16432), (156, 16486), (157, 16495),

Gene: Morty007\_19 Start: 16308, Stop: 16724, Start Num: 73

Candidate Starts for Morty007\_19:

(15, 16038), (17, 16056), (39, 16215), (Start: 59 @16245 has 52 MA's), (Start: 73 @16308 has 3 MA's), (75, 16320), (76, 16323), (93, 16383), (107, 16437), (110, 16449), (112, 16452), (118, 16473), (127, 16542), (128, 16545), (138, 16578), (156, 16632), (157, 16641),

Gene: MossRose\_18 Start: 15249, Stop: 15710, Start Num: 51

Candidate Starts for MossRose\_18:

(11, 14985), (13, 15006), (39, 15210), (Start: 51 @15249 has 6 MA's), (69, 15294), (82, 15357), (92, 15390), (101, 15423), (117, 15477), (136, 15579), (149, 15618), (156, 15639),

Gene: MrWormie\_38 Start: 41594, Stop: 42133, Start Num: 47

Candidate Starts for MrWormie\_38:

(11, 41345), (16, 41408), (21, 41444), (22, 41453), (Start: 44 @41585 has 25 MA's), (Start: 47 @41594 has 26 MA's), (Start: 73 @41690 has 3 MA's), (83, 41732), (101, 41804), (104, 41816), (115, 41852), (126, 41927), (138, 41966), (159, 42038),

Gene: Msay19\_42 Start: 42382, Stop: 42933, Start Num: 44

Candidate Starts for Msay19\_42:

(Start: 44 @42382 has 25 MA's), (Start: 47 @42391 has 26 MA's), (74, 42496), (97, 42586), (104, 42613), (108, 42631), (112, 42637), (115, 42649), (121, 42688), (131, 42739), (134, 42748), (159, 42835), (165, 42874),

Gene: NHagos\_16 Start: 13728, Stop: 14189, Start Num: 51

Candidate Starts for NHagos\_16:

(Start: 51 @13728 has 6 MA's), (63, 13746), (Start: 73 @13797 has 3 MA's), (77, 13815), (80, 13824), (101, 13902), (108, 13932), (136, 14058), (149, 14097), (156, 14118), (157, 14127), (158, 14136),

Gene: Neoevie\_38 Start: 42687, Stop: 43235, Start Num: 44

Candidate Starts for Neoevie\_38:

(11, 42447), (16, 42510), (21, 42546), (22, 42555), (Start: 44 @42687 has 25 MA's), (Start: 47 @42696 has 26 MA's), (Start: 73 @42792 has 3 MA's), (83, 42834), (101, 42906), (104, 42918), (115, 42954), (138, 43068), (159, 43140),

Gene: Neos5\_19 Start: 16253, Stop: 16732, Start Num: 59

Candidate Starts for Neos5\_19:

(15, 16046), (17, 16064), (39, 16223), (Start: 59 @16253 has 52 MA's), (Start: 73 @16316 has 3 MA's), (75, 16328), (76, 16331), (93, 16391), (107, 16445), (110, 16457), (112, 16460), (118, 16481), (127, 16550), (128, 16553), (138, 16586), (156, 16640), (157, 16649),

Gene: Newt\_39 Start: 43020, Stop: 43463, Start Num: 73

Candidate Starts for Newt\_39:

(11, 42675), (16, 42738), (21, 42774), (22, 42783), (Start: 44 @42915 has 25 MA's), (Start: 47 @42924 has 26 MA's), (Start: 73 @43020 has 3 MA's), (83, 43062), (101, 43134), (104, 43146), (115, 43182), (138, 43296), (159, 43368),

Gene: Nimi13\_38 Start: 42433, Stop: 42981, Start Num: 44

Candidate Starts for Nimi13\_38:

(11, 42193), (16, 42256), (21, 42292), (22, 42301), (Start: 44 @42433 has 25 MA's), (Start: 47 @42442 has 26 MA's), (Start: 73 @42538 has 3 MA's), (83, 42580), (101, 42652), (104, 42664), (115, 42700), (138, 42814), (159, 42886),

Gene: Nozo\_19 Start: 16223, Stop: 16702, Start Num: 59

Candidate Starts for Nozo\_19:

(15, 16016), (17, 16034), (39, 16193), (Start: 59 @16223 has 52 MA's), (Start: 73 @16286 has 3 MA's), (75, 16298), (76, 16301), (93, 16361), (107, 16415), (110, 16427), (112, 16430), (118, 16451), (127, 16520), (128, 16523), (138, 16556), (156, 16610), (157, 16619),

Gene: Obutu\_19 Start: 15456, Stop: 15935, Start Num: 59

Candidate Starts for Obutu\_19:

(15, 15249), (17, 15267), (39, 15426), (Start: 59 @15456 has 52 MA's), (Start: 73 @15519 has 3 MA's), (75, 15531), (76, 15534), (93, 15594), (107, 15648), (110, 15660), (112, 15663), (118, 15684), (127, 15753), (128, 15756), (138, 15789), (156, 15843), (157, 15852),

Gene: Opia\_19 Start: 16702, Stop: 17157, Start Num: 64

Candidate Starts for Opia\_19:

(Start: 54 @16675 has 29 MA's), (60, 16690), (Start: 64 @16702 has 24 MA's), (75, 16762), (77, 16768), (82, 16789), (83, 16792), (105, 16873), (113, 16897), (117, 16912), (121, 16945), (135, 17011), (157, 17098), (158, 17104), (164, 17143),

Gene: OrangeOswald\_19 Start: 15461, Stop: 15940, Start Num: 59

Candidate Starts for OrangeOswald\_19:

(15, 15254), (17, 15272), (39, 15431), (Start: 59 @15461 has 52 MA's), (Start: 73 @15524 has 3 MA's), (75, 15536), (76, 15539), (93, 15599), (107, 15653), (110, 15665), (112, 15668), (118, 15689), (127, 15758), (128, 15761), (138, 15794), (156, 15848), (157, 15857),

Gene: PR\_13 Start: 14488, Stop: 14952, Start Num: 56

Candidate Starts for PR\_13:

(25, 14398), (32, 14431), (Start: 37 @14464 has 1 MA's), (Start: 56 @14488 has 7 MA's), (67, 14521), (Start: 70 @14539 has 1 MA's), (74, 14569), (79, 14584), (95, 14644), (100, 14665), (101, 14668), (108, 14698), (110, 14701), (112, 14704), (114, 14710), (117, 14722), (127, 14794), (128, 14797), (134, 14815), (138, 14830), (156, 14884), (157, 14893),

Gene: Phaedrus\_18 Start: 15379, Stop: 15858, Start Num: 59

Candidate Starts for Phaedrus\_18:

(15, 15172), (17, 15190), (39, 15349), (Start: 59 @15379 has 52 MA's), (Start: 73 @15442 has 3 MA's), (75, 15454), (76, 15457), (93, 15517), (107, 15571), (110, 15583), (112, 15586), (118, 15607), (127, 15676), (128, 15679), (138, 15712), (156, 15766), (157, 15775),

Gene: Phantasmagoria\_19 Start: 16675, Stop: 17157, Start Num: 54

Candidate Starts for Phantasmagoria\_19:

(Start: 54 @16675 has 29 MA's), (60, 16690), (Start: 64 @16702 has 24 MA's), (75, 16762), (82, 16789), (83, 16792), (105, 16873), (113, 16897), (117, 16912), (121, 16945), (135, 17011), (157, 17098), (158, 17104), (164, 17143),

Gene: Phayeta\_19 Start: 15337, Stop: 15816, Start Num: 59

Candidate Starts for Phayeta\_19:

(15, 15130), (17, 15148), (39, 15307), (Start: 59 @15337 has 52 MA's), (Start: 73 @15400 has 3 MA's), (75, 15412), (76, 15415), (93, 15475), (107, 15529), (110, 15541), (112, 15544), (118, 15565), (127, 15634), (128, 15637), (138, 15670), (156, 15724), (157, 15733),

Gene: Phendrix\_96 Start: 60904, Stop: 61401, Start Num: 44

Candidate Starts for Phendrix\_96:

(Start: 44 @60904 has 25 MA's), (Start: 48 @60916 has 1 MA's), (82, 61048), (96, 61090), (101, 61111), (107, 61132), (109, 61141), (111, 61144), (132, 61228), (134, 61234), (139, 61249), (165, 61357),

Gene: Philly\_18 Start: 15327, Stop: 15806, Start Num: 59

Candidate Starts for Philly\_18:

(15, 15120), (17, 15138), (39, 15297), (Start: 59 @15327 has 52 MA's), (Start: 73 @15390 has 3 MA's), (75, 15402), (76, 15405), (93, 15465), (101, 15498), (110, 15531), (112, 15534), (113, 15537), (118, 15555), (127, 15624), (128, 15627), (138, 15660), (156, 15714), (157, 15723),

Gene: Phlyer\_19 Start: 16196, Stop: 16675, Start Num: 59

Candidate Starts for Phlyer\_19:

(15, 15989), (17, 16007), (39, 16166), (Start: 59 @16196 has 52 MA's), (Start: 73 @16259 has 3 MA's), (75, 16271), (76, 16274), (93, 16334), (107, 16388), (110, 16400), (112, 16403), (118, 16424), (127, 16493), (128, 16496), (138, 16529), (156, 16583), (157, 16592),

Gene: PierreThree\_37 Start: 41156, Stop: 41698, Start Num: 47

Candidate Starts for PierreThree\_37:

(Start: 44 @41147 has 25 MA's), (Start: 47 @41156 has 26 MA's), (74, 41261), (104, 41378), (106, 41384), (115, 41414), (159, 41600), (165, 41639),

Gene: Pipefish\_19 Start: 16345, Stop: 16824, Start Num: 59

Candidate Starts for Pipefish\_19:

(15, 16138), (17, 16156), (39, 16315), (Start: 59 @16345 has 52 MA's), (Start: 73 @16408 has 3 MA's), (75, 16420), (76, 16423), (93, 16483), (107, 16537), (110, 16549), (112, 16552), (118, 16573), (127, 16642), (128, 16645), (138, 16678), (156, 16732), (157, 16741),

Gene: PokyPuppy\_36 Start: 41099, Stop: 41641, Start Num: 47

Candidate Starts for PokyPuppy\_36:

(9, 40805), (16, 40916), (19, 40934), (21, 40952), (22, 40961), (35, 41060), (Start: 44 @41090 has 25 MA's), (Start: 47 @41099 has 26 MA's), (74, 41204), (97, 41294), (101, 41309), (104, 41321), (114, 41351), (115, 41357), (131, 41447), (134, 41456), (154, 41519), (159, 41543), (165, 41582),

Gene: Poland\_44 Start: 42361, Stop: 42912, Start Num: 44

Candidate Starts for Poland\_44:

(Start: 44 @42361 has 25 MA's), (Start: 47 @42370 has 26 MA's), (97, 42565), (104, 42592), (108, 42610), (115, 42628), (121, 42667), (131, 42718), (134, 42727), (165, 42853),

Gene: Pupper\_84 Start: 32583, Stop: 33056, Start Num: 43

Candidate Starts for Pupper\_84:

(Start: 43 @32583 has 1 MA's), (Start: 45 @32589 has 10 MA's), (69, 32637), (Start: 70 @32640 has 1 MA's), (75, 32673), (77, 32679), (80, 32688), (85, 32709), (104, 32784), (117, 32826), (132, 32913), (133, 32916), (138, 32934), (142, 32940), (150, 32970), (161, 33015), (165, 33045),

Gene: Quesadilla\_19 Start: 16834, Stop: 17340, Start Num: 59

Candidate Starts for Quesadilla\_19:

(5, 16240), (7, 16504), (8, 16525), (34, 16783), (Start: 59 @16834 has 52 MA's), (66, 16852), (82, 16933), (86, 16945), (92, 16966), (94, 16975), (108, 17032), (128, 17185), (131, 17194), (153, 17263), (156, 17272), (163, 17320),

Gene: Qyrzula\_18 Start: 16765, Stop: 17247, Start Num: 54

Candidate Starts for Qyrzula\_18:

(Start: 54 @16765 has 29 MA's), (60, 16780), (Start: 64 @16792 has 24 MA's), (75, 16852), (77, 16858), (82, 16879), (83, 16882), (105, 16963), (113, 16987), (117, 17002), (121, 17035), (135, 17101), (157, 17188), (158, 17194), (164, 17233),

Gene: RagingRooster\_19 Start: 15462, Stop: 15941, Start Num: 59

Candidate Starts for RagingRooster\_19:

(15, 15255), (17, 15273), (39, 15432), (Start: 59 @15462 has 52 MA's), (Start: 73 @15525 has 3 MA's), (75, 15537), (76, 15540), (93, 15600), (107, 15654), (110, 15666), (112, 15669), (118, 15690), (127, 15759), (128, 15762), (138, 15795), (156, 15849), (157, 15858),

Gene: RavenCo17\_22 Start: 19866, Stop: 20312, Start Num: 64

Candidate Starts for RavenCo17\_22:

(23, 19707), (27, 19728), (41, 19800), (55, 19845), (Start: 64 @19866 has 24 MA's), (79, 19941), (89, 19977), (101, 20022), (102, 20028), (105, 20037), (118, 20079), (132, 20142), (141, 20169), (143, 20175), (157, 20223), (160, 20235), (166, 20274),

Gene: RemRem\_38 Start: 40185, Stop: 40727, Start Num: 47

Candidate Starts for RemRem\_38:

(Start: 44 @40176 has 25 MA's), (Start: 47 @40185 has 26 MA's), (97, 40380), (104, 40407), (108, 40425), (115, 40443), (121, 40482), (131, 40533), (134, 40542), (140, 40560), (159, 40629), (165, 40668),

Gene: Rhinoforte\_19 Start: 16819, Stop: 17274, Start Num: 64

Candidate Starts for Rhinoforte\_19:

(Start: 54 @16792 has 29 MA's), (60, 16807), (Start: 64 @16819 has 24 MA's), (75, 16879), (77, 16885), (82, 16906), (83, 16909), (105, 16990), (113, 17014), (117, 17029), (121, 17062), (135, 17128), (157, 17215), (158, 17221), (164, 17260),

Gene: Rita1961\_19 Start: 15457, Stop: 15936, Start Num: 59

Candidate Starts for Rita1961\_19:

(15, 15250), (17, 15268), (39, 15427), (Start: 59 @15457 has 52 MA's), (Start: 73 @15520 has 3 MA's), (75, 15532), (76, 15535), (93, 15595), (107, 15649), (110, 15661), (112, 15664), (118, 15685), (127, 15754), (128, 15757), (138, 15790), (156, 15844), (157, 15853),

Gene: RomaT\_19 Start: 16243, Stop: 16722, Start Num: 59

Candidate Starts for RomaT\_19:

(15, 16036), (17, 16054), (39, 16213), (Start: 59 @16243 has 52 MA's), (Start: 73 @16306 has 3 MA's), (75, 16318), (76, 16321), (93, 16381), (107, 16435), (110, 16447), (112, 16450), (118, 16471), (127, 16540), (128, 16543), (138, 16576), (156, 16630), (157, 16639),

Gene: Rosebush\_19 Start: 16792, Stop: 17274, Start Num: 54

Candidate Starts for Rosebush\_19:

(Start: 54 @16792 has 29 MA's), (60, 16807), (Start: 64 @16819 has 24 MA's), (75, 16879), (77, 16885), (82, 16906), (83, 16909), (105, 16990), (113, 17014), (117, 17029), (121, 17062), (135, 17128), (157, 17215), (158, 17221), (164, 17260),

Gene: RoyalG\_38 Start: 40643, Stop: 41194, Start Num: 44

Candidate Starts for RoyalG\_38:

(Start: 44 @40643 has 25 MA's), (Start: 47 @40652 has 26 MA's), (82, 40787), (97, 40847), (101, 40862), (104, 40874), (114, 40904), (115, 40910), (131, 41000), (134, 41009), (154, 41072), (159, 41096), (165, 41135),

Gene: SCentae\_82 Start: 32263, Stop: 32730, Start Num: 45

Candidate Starts for SCentae\_82:

(Start: 43 @32257 has 1 MA's), (Start: 45 @32263 has 10 MA's), (69, 32311), (Start: 70 @32314 has 1 MA's), (75, 32347), (77, 32353), (80, 32362), (85, 32383), (104, 32458), (117, 32500), (132, 32587), (133, 32590), (138, 32608), (142, 32614), (150, 32644), (161, 32689), (165, 32719),



Gene: Sabella\_19 Start: 16678, Stop: 17160, Start Num: 54

Candidate Starts for Sabella\_19:

(Start: 54 @16678 has 29 MA's), (60, 16693), (Start: 64 @16705 has 24 MA's), (75, 16765), (77, 16771), (82, 16792), (83, 16795), (105, 16876), (113, 16900), (117, 16915), (121, 16948), (135, 17014), (157, 17101), (158, 17107), (164, 17146),

Gene: Sahara\_21 Start: 18646, Stop: 19092, Start Num: 64

Candidate Starts for Sahara\_21:

(12, 18349), (18, 18403), (23, 18484), (27, 18505), (55, 18622), (Start: 64 @18646 has 24 MA's), (79, 18721), (101, 18802), (102, 18808), (105, 18817), (110, 18835), (118, 18859), (132, 18922), (141, 18949), (143, 18955), (153, 18985), (157, 19003), (159, 19012), (160, 19015), (166, 19054),

Gene: Sam12\_37 Start: 40185, Stop: 40727, Start Num: 47

Candidate Starts for Sam12\_37:

(Start: 44 @40176 has 25 MA's), (Start: 47 @40185 has 26 MA's), (97, 40380), (104, 40407), (108, 40425), (115, 40443), (121, 40482), (131, 40533), (134, 40542), (140, 40560), (159, 40629), (165, 40668),

Gene: Savage\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Savage\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Sejanus\_15 Start: 13789, Stop: 14241, Start Num: 59

Candidate Starts for Sejanus\_15:

(40, 13765), (Start: 59 @13789 has 52 MA's), (74, 13858), (76, 13864), (77, 13867), (84, 13894), (117, 14011), (126, 14080), (128, 14086), (136, 14113), (154, 14167), (156, 14173), (160, 14194), (161, 14200),

Gene: Shatter\_16 Start: 13799, Stop: 14290, Start Num: 45

Candidate Starts for Shatter\_16:

(6, 13475), (14, 13577), (Start: 45 @13799 has 10 MA's), (63, 13841), (75, 13904), (92, 13964), (101, 14003), (138, 14165), (142, 14171), (149, 14198), (156, 14219), (158, 14237), (163, 14270), (165, 14279),

Gene: Shelley\_38 Start: 41918, Stop: 42457, Start Num: 47

Candidate Starts for Shelley\_38:

(11, 41669), (16, 41732), (21, 41768), (22, 41777), (Start: 44 @41909 has 25 MA's), (Start: 47 @41918 has 26 MA's), (Start: 73 @42014 has 3 MA's), (83, 42056), (101, 42128), (104, 42140), (115, 42176), (126, 42251), (138, 42290), (159, 42362),

Gene: Sienna\_32 Start: 27977, Stop: 28465, Start Num: 52

Candidate Starts for Sienna\_32:

(Start: 52 @27977 has 7 MA's), (75, 28073), (104, 28181), (118, 28223), (123, 28256), (131, 28283), (153, 28355), (159, 28382), (161, 28391), (167, 28433),

Gene: Sisko\_16 Start: 14142, Stop: 14612, Start Num: 45

Candidate Starts for Sisko\_16:

(6, 13818), (Start: 45 @14142 has 10 MA's), (63, 14163), (65, 14166), (82, 14253), (88, 14274), (102, 14331), (122, 14424), (126, 14448), (132, 14466), (136, 14481), (138, 14487), (140, 14490), (149, 14520), (156, 14541),

Gene: Sixama\_112 Start: 69586, Stop: 70068, Start Num: 49

Candidate Starts for Sixama\_112:

(Start: 49 @69586 has 6 MA's), (92, 69742), (96, 69754), (118, 69832), (125, 69874), (127, 69880), (129, 69886), (153, 69961), (162, 70006),

Gene: Skog\_147 Start: 61646, Stop: 62143, Start Num: 38

Candidate Starts for Skog\_147:

(Start: 38 @61646 has 1 MA's), (Start: 43 @61670 has 1 MA's), (Start: 45 @61676 has 10 MA's), (75, 61760), (77, 61766), (80, 61775), (90, 61811), (117, 61913), (138, 62021), (148, 62051), (161, 62102), (165, 62132),

Gene: SlippinJimmy\_19 Start: 16196, Stop: 16705, Start Num: 39

Candidate Starts for SlippinJimmy\_19:

(15, 16019), (17, 16037), (39, 16196), (Start: 59 @16226 has 52 MA's), (Start: 73 @16289 has 3 MA's), (75, 16301), (76, 16304), (93, 16364), (107, 16418), (110, 16430), (112, 16433), (118, 16454), (127, 16523), (128, 16526), (138, 16559), (156, 16613), (157, 16622),

Gene: SoilAssassin\_22 Start: 18967, Stop: 19413, Start Num: 64

Candidate Starts for SoilAssassin\_22:

(12, 18670), (18, 18724), (23, 18805), (27, 18826), (55, 18943), (Start: 64 @18967 has 24 MA's), (79, 19042), (101, 19123), (102, 19129), (105, 19138), (110, 19156), (118, 19180), (132, 19243), (141, 19270), (143, 19276), (153, 19306), (157, 19324), (159, 19333), (160, 19336), (166, 19375),

Gene: Sombrero\_37 Start: 40178, Stop: 40729, Start Num: 44

Candidate Starts for Sombrero\_37:

(Start: 44 @40178 has 25 MA's), (Start: 47 @40187 has 26 MA's), (97, 40382), (104, 40409), (108, 40427), (115, 40445), (121, 40484), (131, 40535), (134, 40544), (165, 40670),

Gene: Sour\_19 Start: 15570, Stop: 16061, Start Num: 36

Candidate Starts for Sour\_19:

(Start: 36 @15570 has 1 MA's), (63, 15612), (65, 15615), (80, 15690), (82, 15702), (92, 15735), (98, 15762), (101, 15774), (102, 15780), (107, 15795), (126, 15897), (128, 15903), (132, 15915), (138, 15936), (140, 15939), (149, 15969), (154, 15984), (156, 15990), (161, 16020),

Gene: Sproutie\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Sproutie\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Squibbles\_37 Start: 41039, Stop: 41590, Start Num: 44

Candidate Starts for Squibbles\_37:

(Start: 44 @41039 has 25 MA's), (Start: 47 @41048 has 26 MA's), (97, 41243), (104, 41270), (108, 41288), (115, 41306), (121, 41345), (131, 41396), (134, 41405), (140, 41423), (159, 41492), (165, 41531),

Gene: SteveFrench\_37 Start: 40883, Stop: 41434, Start Num: 44

Candidate Starts for SteveFrench\_37:

(Start: 44 @40883 has 25 MA's), (Start: 47 @40892 has 26 MA's), (82, 41027), (97, 41087), (101, 41102), (104, 41114), (114, 41144), (115, 41150), (131, 41240), (134, 41249), (154, 41312), (159, 41336), (165, 41375),

Gene: Sticker17\_38 Start: 42424, Stop: 42972, Start Num: 44

Candidate Starts for Sticker17\_38:

(11, 42184), (16, 42247), (21, 42283), (22, 42292), (Start: 44 @42424 has 25 MA's), (Start: 47 @42433 has 26 MA's), (Start: 73 @42529 has 3 MA's), (83, 42571), (101, 42643), (104, 42655), (115, 42691), (126, 42766), (138, 42805), (159, 42877),

Gene: Suzy\_32 Start: 29154, Stop: 29561, Start Num: 70

Candidate Starts for Suzy\_32:

(57, 29103), (Start: 70 @29154 has 1 MA's), (78, 29196), (99, 29271), (105, 29295), (110, 29313), (114, 29322), (118, 29337), (122, 29358), (132, 29400), (150, 29457), (168, 29550),

Gene: SynergyX\_19 Start: 15462, Stop: 15941, Start Num: 59

Candidate Starts for SynergyX\_19:

(15, 15255), (17, 15273), (39, 15432), (Start: 59 @15462 has 52 MA's), (Start: 73 @15525 has 3 MA's), (75, 15537), (76, 15540), (93, 15600), (107, 15654), (110, 15666), (112, 15669), (118, 15690), (127, 15759), (128, 15762), (138, 15795), (156, 15849), (157, 15858),

Gene: Taptic\_13 Start: 14461, Stop: 14925, Start Num: 56

Candidate Starts for Taptic\_13:

(25, 14371), (32, 14404), (Start: 37 @14437 has 1 MA's), (Start: 56 @14461 has 7 MA's), (67, 14494), (Start: 70 @14512 has 1 MA's), (74, 14542), (79, 14557), (91, 14602), (95, 14617), (100, 14638), (101, 14641), (103, 14650), (110, 14674), (112, 14677), (114, 14683), (117, 14695), (127, 14767), (128, 14770), (134, 14788), (138, 14803), (156, 14857), (157, 14866),

Gene: Teal\_38 Start: 42901, Stop: 43440, Start Num: 47

Candidate Starts for Teal\_38:

(11, 42652), (16, 42715), (21, 42751), (22, 42760), (Start: 44 @42892 has 25 MA's), (Start: 47 @42901 has 26 MA's), (Start: 73 @42997 has 3 MA's), (83, 43039), (101, 43111), (104, 43123), (115, 43159), (138, 43273), (159, 43345),

Gene: Terapin\_33 Start: 27978, Stop: 28466, Start Num: 52

Candidate Starts for Terapin\_33:

(Start: 52 @27978 has 7 MA's), (75, 28074), (82, 28101), (87, 28116), (101, 28170), (104, 28182), (110, 28200), (118, 28224), (123, 28257), (125, 28266), (131, 28284), (153, 28356), (159, 28383), (162, 28401), (169, 28446),

Gene: Tinciduntolum\_20 Start: 16794, Stop: 17276, Start Num: 54

Candidate Starts for Tinciduntolum\_20:

(Start: 54 @16794 has 29 MA's), (60, 16809), (Start: 64 @16821 has 24 MA's), (75, 16881), (77, 16887), (82, 16908), (83, 16911), (105, 16992), (113, 17016), (117, 17031), (121, 17064), (135, 17130), (157, 17217), (158, 17223), (164, 17262),

Gene: Tres\_19 Start: 16675, Stop: 17157, Start Num: 54

Candidate Starts for Tres\_19:

(Start: 54 @16675 has 29 MA's), (60, 16690), (Start: 64 @16702 has 24 MA's), (75, 16762), (77, 16768), (82, 16789), (83, 16792), (105, 16873), (113, 16897), (117, 16912), (121, 16945), (135, 17011), (157, 17098), (158, 17104), (164, 17143),

Gene: TuertoX\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for TuertoX\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Tydolla\_19 Start: 16199, Stop: 16678, Start Num: 59

Candidate Starts for Tydolla\_19:

(15, 15992), (17, 16010), (39, 16169), (Start: 59 @16199 has 52 MA's), (Start: 73 @16262 has 3 MA's), (75, 16274), (76, 16277), (93, 16337), (107, 16391), (110, 16403), (112, 16406), (118, 16427), (127, 16496), (128, 16499), (138, 16532), (156, 16586), (157, 16595),

Gene: Vasanti\_21 Start: 18528, Stop: 18974, Start Num: 64

Candidate Starts for Vasanti\_21:

(3, 17829), (4, 17865), (12, 18231), (18, 18285), (23, 18366), (26, 18384), (27, 18387), (55, 18504), (Start: 64 @18528 has 24 MA's), (79, 18603), (96, 18663), (101, 18684), (105, 18699), (117, 18738), (118, 18741), (130, 18798), (132, 18804), (157, 18885), (159, 18894), (160, 18897), (162, 18912), (166, 18936),

Gene: West99\_19 Start: 16795, Stop: 17277, Start Num: 54

Candidate Starts for West99\_19:

(Start: 54 @16795 has 29 MA's), (60, 16810), (Start: 64 @16822 has 24 MA's), (75, 16882), (77, 16888), (82, 16909), (83, 16912), (105, 16993), (113, 17017), (117, 17032), (121, 17065), (135, 17131), (157, 17218), (158, 17224), (164, 17263),

Gene: Whiteclaw\_22 Start: 18974, Stop: 19420, Start Num: 64

Candidate Starts for Whiteclaw\_22:

(12, 18677), (18, 18731), (23, 18812), (27, 18833), (55, 18950), (Start: 64 @18974 has 24 MA's), (79, 19049), (101, 19130), (105, 19145), (118, 19187), (132, 19250), (141, 19277), (143, 19283), (157, 19331), (159, 19340), (160, 19343), (166, 19382),

Gene: Woes\_38 Start: 42952, Stop: 43491, Start Num: 47

Candidate Starts for Woes\_38:

(11, 42703), (16, 42766), (21, 42802), (22, 42811), (Start: 44 @42943 has 25 MA's), (Start: 47 @42952 has 26 MA's), (Start: 73 @43048 has 3 MA's), (83, 43090), (101, 43162), (104, 43174), (115, 43210), (138, 43324), (159, 43396),

Gene: Wooper\_18 Start: 15258, Stop: 15719, Start Num: 51

Candidate Starts for Wooper\_18:

(11, 14994), (13, 15015), (14, 15027), (39, 15219), (Start: 51 @15258 has 6 MA's), (Start: 59 @15264 has 52 MA's), (101, 15432), (108, 15462), (117, 15486), (136, 15588), (149, 15627), (156, 15648), (157, 15657),

Gene: Xenia2\_33 Start: 30443, Stop: 30931, Start Num: 49

Candidate Starts for Xenia2\_33:

(24, 30329), (28, 30344), (29, 30356), (30, 30359), (33, 30368), (42, 30419), (Start: 49 @30443 has 6 MA's), (Start: 73 @30533 has 3 MA's), (79, 30557), (110, 30671), (116, 30689), (118, 30695), (127, 30743), (131, 30755), (137, 30776), (145, 30800), (157, 30842), (165, 30890),

Gene: Yago84\_16 Start: 14151, Stop: 14621, Start Num: 45

Candidate Starts for Yago84\_16:

(6, 13827), (Start: 45 @14151 has 10 MA's), (63, 14172), (65, 14175), (82, 14262), (88, 14283), (102, 14340), (122, 14433), (126, 14457), (132, 14475), (136, 14490), (138, 14496), (140, 14499), (149, 14529), (156, 14550),

Gene: Yahalom\_19 Start: 15473, Stop: 15952, Start Num: 59

Candidate Starts for Yahalom\_19:

(15, 15266), (17, 15284), (39, 15443), (Start: 59 @15473 has 52 MA's), (Start: 73 @15536 has 3 MA's), (75, 15548), (76, 15551), (93, 15611), (107, 15665), (110, 15677), (112, 15680), (118, 15701),

(127, 15770), (128, 15773), (138, 15806), (156, 15860), (157, 15869),

Gene: Yeet412\_22 Start: 18967, Stop: 19413, Start Num: 64

Candidate Starts for Yeet412\_22:

(12, 18670), (18, 18724), (23, 18805), (27, 18826), (55, 18943), (Start: 64 @18967 has 24 MA's), (79, 19042), (101, 19123), (102, 19129), (105, 19138), (110, 19156), (118, 19180), (132, 19243), (141, 19270), (143, 19276), (153, 19306), (157, 19324), (159, 19333), (160, 19336), (166, 19375),

Gene: Yinz\_19 Start: 15500, Stop: 15979, Start Num: 59

Candidate Starts for Yinz\_19:

(1, 14711), (2, 14747), (8, 15188), (11, 15245), (15, 15293), (17, 15311), (39, 15470), (Start: 59 @15500 has 52 MA's), (Start: 73 @15563 has 3 MA's), (75, 15575), (76, 15578), (93, 15638), (110, 15704), (112, 15707), (118, 15728), (127, 15797), (128, 15800), (138, 15833), (156, 15887), (157, 15896),

Gene: Zenteno07\_21 Start: 14952, Stop: 15446, Start Num: 59

Candidate Starts for Zenteno07\_21:

(7, 14622), (11, 14700), (17, 14766), (58, 14949), (Start: 59 @14952 has 52 MA's), (61, 14955), (66, 14970), (75, 15024), (82, 15051), (108, 15150), (120, 15204), (132, 15303), (134, 15309), (136, 15318), (154, 15372), (156, 15378),