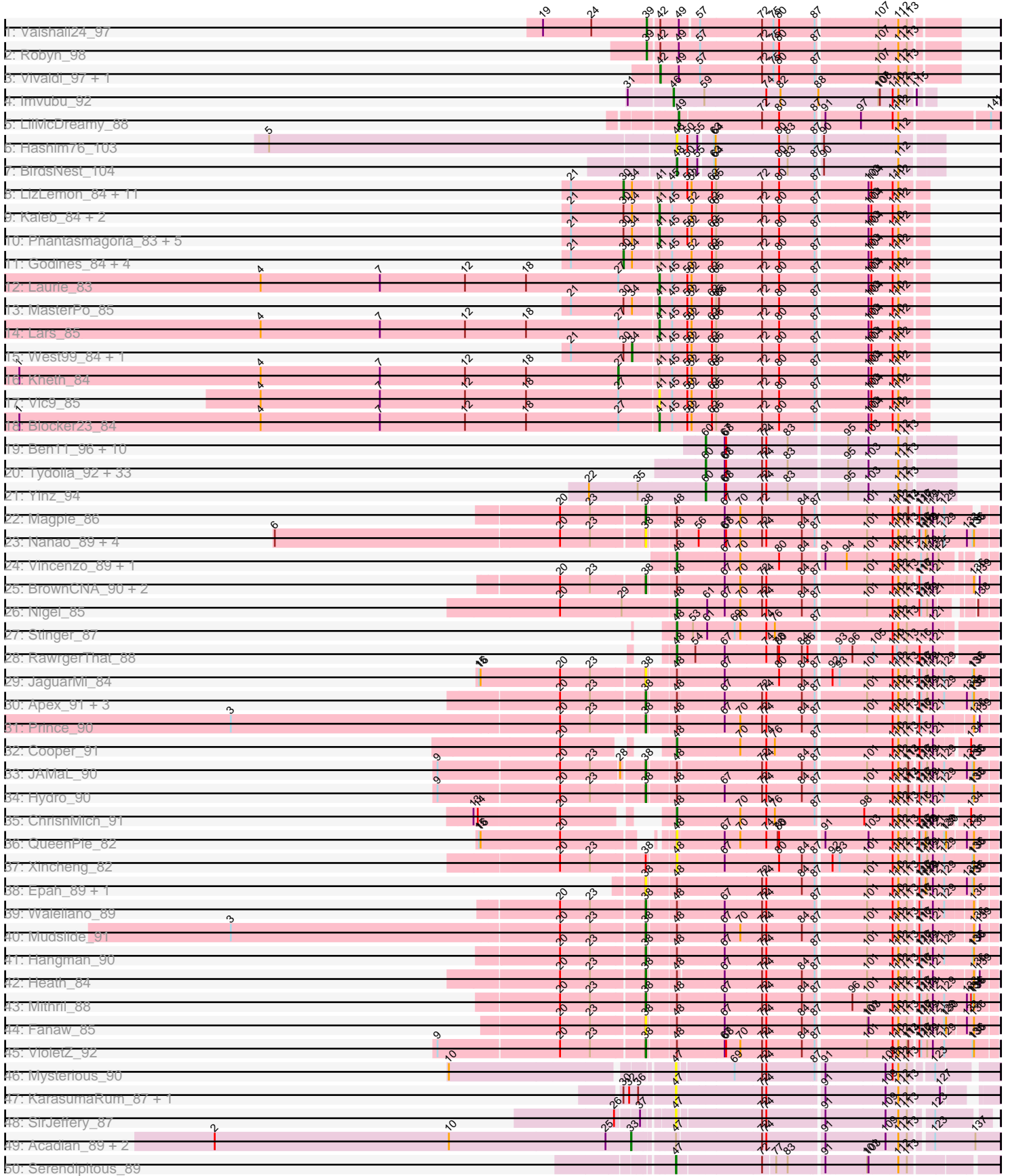
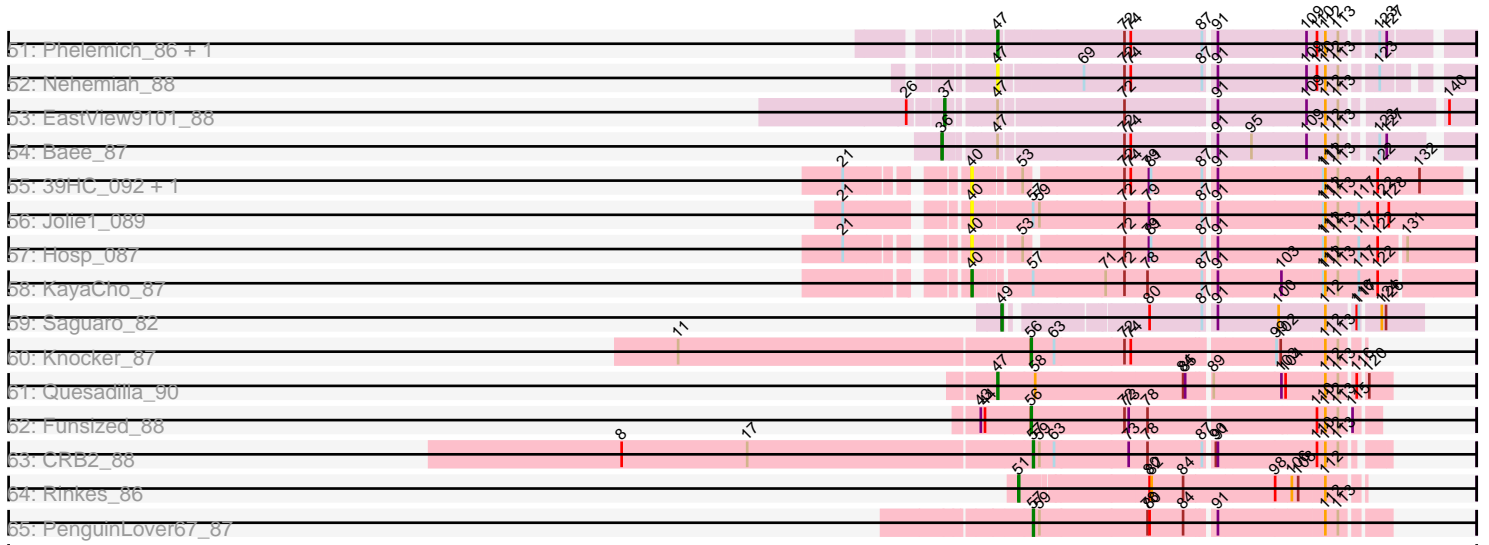


Pham 195467



Pham 195467



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 195467 Report

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

Pham number 195467 has 148 members, 26 are drafts.

Phages represented in each track:

- Track 1 : Vaishali24\_97
- Track 2 : Robyn\_98
- Track 3 : Vivaldi\_97, Gyarad\_0095
- Track 4 : Imvubu\_92
- Track 5 : LilMcDreamy\_88
- Track 6 : Hashim76\_103
- Track 7 : BirdsNest\_104
- Track 8 : LizLemon\_84, Tinciduntolum\_85, Sabella\_84, Rhinoforte\_84, Arbitrator\_81, Qyrzula\_75, Ares\_84, FrenchFry\_85, Bananafish\_85, Opia\_85, Hedgerow\_84, Brownie5\_84
- Track 9 : Kaleb\_84, Lephleur\_84, TA17A\_85
- Track 10 : Phantasmagoria\_83, Allegro\_84, Boyle\_84, Calamitous\_85, Faze9\_83, Coffee\_83
- Track 11 : Godines\_84, Glass\_86, Rosebush\_82, ItsyBitsy1\_81, Holeinone\_84
- Track 12 : Laurie\_83
- Track 13 : MasterPo\_85
- Track 14 : Lars\_85
- Track 15 : West99\_84, Tres\_84
- Track 16 : Kheth\_84
- Track 17 : Vic9\_85
- Track 18 : Blocker23\_84
- Track 19 : Ben11\_96, Marley1013\_94, Chandler\_96, Kronus\_96, Mortcellus\_96, LestyG\_94, Devonte\_94, Yahalom\_94, Bernardo\_93, Casbah\_96, Compostia\_95
- Track 20 : Tydolla\_92, Neos5\_95, Gervas\_97, SynergyX\_97, OrangeOswald\_95, Akoma\_97, Philly\_95, HarveySr\_93, RagingRooster\_96, Corofin\_96, Phlyer\_96, SlippinJimmy\_99, Audrey\_96, Jackstina\_89, GlenHope\_97, Rita1961\_97, Baloo\_95, Briakila\_97, Morty007\_94, Phayeta\_98, Deenasa\_97, Abinghost\_96, Nozo\_96, Obutu\_98, Heathcliff\_96, MmasiCarm\_97, RomaT\_96, Daisy\_95, Phaedrus\_91, Kamiyu\_96, Halfpint\_95, Pipefish\_95, ChaChing\_96, Athena\_98
- Track 21 : YinZ\_94
- Track 22 : Magpie\_86
- Track 23 : Nanao\_89, Lambano\_87, Poster\_88, GinPorsche\_89, Hally898\_87
- Track 24 : Vincenzo\_89, AlanGrant\_90
- Track 25 : BrownCNA\_90, Austelle\_90, Lolalove\_92
- Track 26 : Nigel\_85
- Track 27 : Stinger\_87
- Track 28 : RawrgerThat\_88

- Track 29 : JaguarMi\_84
- Track 30 : Apex\_91, BobbyK\_90, Frederick\_91, Zemanar\_88
- Track 31 : Prince\_90
- Track 32 : Cooper\_91
- Track 33 : JAMaL\_90
- Track 34 : Hydro\_90
- Track 35 : ChrisnMich\_91
- Track 36 : QueenPie\_82
- Track 37 : Xincheng\_82
- Track 38 : Epah\_89, Antihero\_89
- Track 39 : Waleliano\_89
- Track 40 : Mudslide\_91
- Track 41 : Hangman\_90
- Track 42 : Heath\_84
- Track 43 : Mithril\_88
- Track 44 : Fanaw\_85
- Track 45 : VioletZ\_92
- Track 46 : Mysterious\_90
- Track 47 : KarasumaRum\_87, StinkyVeggy\_87
- Track 48 : SirJeffery\_87
- Track 49 : Acadian\_89, Suigeneris\_90, Donny\_89
- Track 50 : Serendipitous\_89
- Track 51 : Phelemich\_86, Reprobate\_88
- Track 52 : Nehemiah\_88
- Track 53 : EastView9101\_88
- Track 54 : Bae\_87
- Track 55 : 39HC\_092, 40BC\_092
- Track 56 : Jolie1\_089
- Track 57 : Hosp\_087
- Track 58 : KayaCho\_87
- Track 59 : Saguaro\_82
- Track 60 : Knocker\_87
- Track 61 : Quesadilla\_90
- Track 62 : Funsized\_88
- Track 63 : CRB2\_88
- Track 64 : Rinkes\_86
- Track 65 : PenguinLover67\_87

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

The start number called the most often in the published annotations is 60, it was called in 44 of the 122 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Abinghost\_96, Akoma\_97, Athena\_98, Audrey\_96, Baloo\_95, Ben11\_96, Bernardo\_93, Briakila\_97, Casbah\_96, ChaChing\_96, Chandler\_96, Compostia\_95, Corofin\_96, Daisy\_95, Deenasa\_97, Devonte\_94, Gervas\_97, GlenHope\_97, Halfpint\_95, HarveySr\_93, Heathcliff\_96, Jackstina\_89, Kamiyu\_96, Kronus\_96, LestyG\_94, Marley1013\_94, MmasiCarm\_97, Mortcellus\_96, Morty007\_94, Neos5\_95, Nozo\_96, Obutu\_98, OrangeOswald\_95, Phaedrus\_91, Phayeta\_98,

Philly\_95, Phlyer\_96, Pipefish\_95, RagingRooster\_96, Rita1961\_97, RomaT\_96, SlippinJimmy\_99, SynergyX\_97, Tydolla\_92, Yahalom\_94, Yinz\_94,

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

- 

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

- 39HC\_092, 40BC\_092, Acadian\_89, AlanGrant\_90, Allegro\_84, Antihero\_89, Apex\_91, Arbiter\_81, Ares\_84, Austelle\_90, Bae\_87, Bananafish\_85, BirdsNest\_104, Blocker23\_84, BobbyK\_90, Boyle\_84, BrownCNA\_90, Brownie5\_84, CRB2\_88, Calamitous\_85, ChrisnMich\_91, Coffee\_83, Cooper\_91, Donny\_89, EastView9101\_88, Epah\_89, Fanaw\_85, Faze9\_83, Frederick\_91, FrenchFry\_85, Funsized\_88, GinPorsche\_89, Glass\_86, Godines\_84, Gyarad\_0095, Hally898\_87, Hangman\_90, Hashim76\_103, Heath\_84, Hedgerow\_84, Holeinone\_84, Hosp\_087, Hydro\_90, Imvubu\_92, ItsyBitsy1\_81, JAMaL\_90, JaguarMi\_84, Jolie1\_089, Kaleb\_84, KarasumaRum\_87, KayaCho\_87, Kheth\_84, Knocker\_87, Lambano\_87, Lars\_85, Laurie\_83, Lephleur\_84, LilMcDreamy\_88, LizLemon\_84, Lolalove\_92, Magpie\_86, MasterPo\_85, Mithril\_88, Mudslide\_91, Mysterious\_90, Nanao\_89, Nehemiah\_88, Nigel\_85, Opia\_85, PenguinLover67\_87, Phantasmagoria\_83, Phelemich\_86, Poster\_88, Prince\_90, QueenPie\_82, Quesadilla\_90, Qyrzula\_75, RawrgerThat\_88, Reprobate\_88, Rhinoforte\_84, Rinkes\_86, Robyn\_98, Rosebush\_82, Sabella\_84, Saguaro\_82, Serendipitous\_89, SirJeffery\_87, Stinger\_87, StinkyVeggy\_87, Suigeneris\_90, TA17A\_85, Tinciduntolum\_85, Tres\_84, Vaishali24\_97, Vic9\_85, Vincenzo\_89, VioletZ\_92, Vivaldi\_97, Waleliano\_89, West99\_84, Xincheng\_82, Zemanar\_88,

### Summary by start number:

Start 27:

- Found in 5 of 148 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Kheth\_84 (B2),

Start 30:

- Found in 31 of 148 ( 20.9% ) of genes in pham
- Manual Annotations of this start: 17 of 122
- Called 54.8% of time when present
- Phage (with cluster) where this start called: Arbiter\_81 (B2), Ares\_84 (B2), Bananafish\_85 (B2), Brownie5\_84 (B2), FrenchFry\_85 (B2), Glass\_86 (B2), Godines\_84 (B2), Hedgerow\_84 (B2), Holeinone\_84 (B2), ItsyBitsy1\_81 (B2), LizLemon\_84 (B2), Opia\_85 (B2), Qyrzula\_75 (B2), Rhinoforte\_84 (B2), Rosebush\_82 (B2), Sabella\_84 (B2), Tinciduntolum\_85 (B2),

Start 33:

- Found in 3 of 148 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 3 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acadian\_89 (B5), Donny\_89 (B5), Suigeneris\_90 (B5),

Start 34:

- Found in 29 of 148 ( 19.6% ) of genes in pham

- Manual Annotations of this start: 2 of 122
- Called 6.9% of time when present
- Phage (with cluster) where this start called: Tres\_84 (B2), West99\_84 (B2),

#### Start 36:

- Found in 3 of 148 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Bae\_87 (B5),

#### Start 37:

- Found in 2 of 148 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 50.0% of time when present
- Phage (with cluster) where this start called: EastView9101\_88 (B5),

#### Start 38:

- Found in 27 of 148 ( 18.2% ) of genes in pham
- Manual Annotations of this start: 17 of 122
- Called 96.3% of time when present
- Phage (with cluster) where this start called: Antihero\_89 (B4), Apex\_91 (B4), Austelle\_90 (B4), BobbyK\_90 (B4), BrownCNA\_90 (B4), Epah\_89 (B4), Fanaw\_85 (B4), Frederick\_91 (B4), GinPorsche\_89 (B4), Hally898\_87 (B4), Hangman\_90 (B4), Heath\_84 (B4), Hydro\_90 (B4), JAMaL\_90 (B4), JaguarMi\_84 (B4), Lambano\_87 (B4), Lolalove\_92 (B4), Magpie\_86 (B4), Mithril\_88 (B4), Mudslide\_91 (B4), Nanao\_89 (B4), Poster\_88 (B4), Prince\_90 (B4), VioletZ\_92 (B4), Waleliano\_89 (B4), Zemanar\_88 (B4),

#### Start 39:

- Found in 2 of 148 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Robyn\_98 (B1), Vaishali24\_97 (B1),

#### Start 40:

- Found in 5 of 148 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_092 (B6), 40BC\_092 (B6), Hosp\_087 (B6), Jolie1\_089 (B6), KayaCho\_87 (B6),

#### Start 41:

- Found in 34 of 148 ( 23.0% ) of genes in pham
- Manual Annotations of this start: 11 of 122
- Called 41.2% of time when present
- Phage (with cluster) where this start called: Allegro\_84 (B2), Blocker23\_84 (B2), Boyle\_84 (B2), Calamitous\_85 (B2), Coffee\_83 (B2), Faze9\_83 (B2), Kaleb\_84 (B2), Lars\_85 (B2), Laurie\_83 (B2), Lephleur\_84 (B2), MasterPo\_85 (B2), Phantasmagoria\_83 (B2), TA17A\_85 (B2), Vic9\_85 (B2),

#### Start 42:

- Found in 4 of 148 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 2 of 122

- Called 50.0% of time when present
- Phage (with cluster) where this start called: Gyarad\_0095 (B1), Vivaldi\_97 (B1),

Start 46:

- Found in 1 of 148 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Imvubu\_92 (B10),

Start 47:

- Found in 14 of 148 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 4 of 122
- Called 64.3% of time when present
- Phage (with cluster) where this start called: KarasumaRum\_87 (B5), Mysterious\_90 (B5), Nehemiah\_88 (B5), Phelemich\_86 (B5), Quesadilla\_90 (B9), Reprobate\_88 (B5), Serendipitous\_89 (B5), SirJeffery\_87 (B5), StinkyVeggy\_87 (B5),

Start 48:

- Found in 37 of 148 ( 25.0% ) of genes in pham
- Manual Annotations of this start: 8 of 122
- Called 29.7% of time when present
- Phage (with cluster) where this start called: AlanGrant\_90 (B4), BirdsNest\_104 (B13), ChrisnMich\_91 (B4), Cooper\_91 (B4), Hashim76\_103 (B13), Nigel\_85 (B4), QueenPie\_82 (B4), RawrgerThat\_88 (B4), Stinger\_87 (B4), Vincenzo\_89 (B4), Xincheng\_82 (B4),

Start 49:

- Found in 6 of 148 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 2 of 122
- Called 33.3% of time when present
- Phage (with cluster) where this start called: LilMcDreamy\_88 (B12), Saguaro\_82 (B7),

Start 51:

- Found in 1 of 148 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rinkes\_86 (B9),

Start 56:

- Found in 7 of 148 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 2 of 122
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Funsized\_88 (B9), Knocker\_87 (B9),

Start 57:

- Found in 8 of 148 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 2 of 122
- Called 25.0% of time when present
- Phage (with cluster) where this start called: CRB2\_88 (B9), PenguinLover67\_87 (B9),

Start 60:

- Found in 46 of 148 ( 31.1% ) of genes in pham
- Manual Annotations of this start: 44 of 122
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abinghost\_96 (B3), Akoma\_97 (B3), Athena\_98 (B3), Audrey\_96 (B3), Baloo\_95 (B3), Ben11\_96 (B3), Bernardo\_93 (B3), Briakila\_97 (B3), Casbah\_96 (B3), ChaChing\_96 (B3), Chandler\_96 (B3), Compostia\_95 (B3), Corofin\_96 (B3), Daisy\_95 (B3), Deenasa\_97 (B3), Devonte\_94 (B3), Gervas\_97 (B3), GlenHope\_97 (B3), Halfpint\_95 (B3), HarveySr\_93 (B3), Heathcliff\_96 (B3), Jackstina\_89 (B3), Kamiyu\_96 (B3), Kronus\_96 (B3), LestyG\_94 (B3), Marley1013\_94 (B3), MmasiCarm\_97 (B3), Mortcellus\_96 (B3), Morty007\_94 (B3), Neos5\_95 (B3), Nozo\_96 (B3), Obutu\_98 (B3), OrangeOswald\_95 (B3), Phaedrus\_91 (B3), Phayeta\_98 (B3), Philly\_95 (B3), Phlyer\_96 (B3), Pipefish\_95 (B3), RagingRooster\_96 (B3), Rita1961\_97 (B3), RomaT\_96 (B3), SlippinJimmy\_99 (B3), SynergyX\_97 (B3), Tydolla\_92 (B3), Yahalom\_94 (B3), Yinz\_94 (B3),

### Summary by clusters:

There are 11 clusters represented in this pham: B10, B4, B5, B6, B7, B12, B1, B2, B3, B9, B13,

Info for manual annotations of cluster B1:

- Start number 39 was manually annotated 2 times for cluster B1.
- Start number 42 was manually annotated 2 times for cluster B1.

Info for manual annotations of cluster B10:

- Start number 46 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B12:

- Start number 49 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 48 was manually annotated 1 time for cluster B13.

Info for manual annotations of cluster B2:

- Start number 27 was manually annotated 1 time for cluster B2.
- Start number 30 was manually annotated 17 times for cluster B2.
- Start number 34 was manually annotated 2 times for cluster B2.
- Start number 41 was manually annotated 11 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 60 was manually annotated 44 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 38 was manually annotated 17 times for cluster B4.
- Start number 48 was manually annotated 7 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 33 was manually annotated 3 times for cluster B5.
- Start number 36 was manually annotated 1 time for cluster B5.
- Start number 37 was manually annotated 1 time for cluster B5.
- Start number 47 was manually annotated 3 times for cluster B5.

Info for manual annotations of cluster B6:



- Start number 40 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 49 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B9:

- Start number 47 was manually annotated 1 time for cluster B9.
- Start number 51 was manually annotated 1 time for cluster B9.
- Start number 56 was manually annotated 2 times for cluster B9.
- Start number 57 was manually annotated 2 times for cluster B9.

### **Gene Information:**

Gene: 39HC\_092 Start: 66926, Stop: 66300, Start Num: 40

Candidate Starts for 39HC\_092:

(21, 67055), (Start: 40 @66926 has 1 MA's), (53, 66869), (72, 66740), (74, 66731), (79, 66710), (81, 66707), (87, 66638), (91, 66626), (111, 66485), (112, 66482), (113, 66464), (122, 66413), (132, 66356),

Gene: 40BC\_092 Start: 66926, Stop: 66300, Start Num: 40

Candidate Starts for 40BC\_092:

(21, 67055), (Start: 40 @66926 has 1 MA's), (53, 66869), (72, 66740), (74, 66731), (79, 66710), (81, 66707), (87, 66638), (91, 66626), (111, 66485), (112, 66482), (113, 66464), (122, 66413), (132, 66356),

Gene: Abinghost\_96 Start: 65736, Stop: 65248, Start Num: 60

Candidate Starts for Abinghost\_96:

(Start: 60 @65736 has 44 MA's), (67, 65697), (68, 65694), (72, 65619), (74, 65610), (83, 65568), (95, 65460), (103, 65418), (112, 65355), (113, 65337),

Gene: Acadian\_89 Start: 66018, Stop: 65326, Start Num: 33

Candidate Starts for Acadian\_89:

(2, 66897), (10, 66402), (25, 66072), (Start: 33 @66018 has 3 MA's), (Start: 47 @65943 has 4 MA's), (72, 65772), (74, 65763), (91, 65655), (109, 65538), (112, 65514), (113, 65496), (123, 65460), (137, 65379),

Gene: Akoma\_97 Start: 65813, Stop: 65325, Start Num: 60

Candidate Starts for Akoma\_97:

(Start: 60 @65813 has 44 MA's), (67, 65774), (68, 65771), (72, 65696), (74, 65687), (83, 65645), (95, 65537), (103, 65495), (112, 65432), (113, 65414),

Gene: AlanGrant\_90 Start: 68004, Stop: 67411, Start Num: 48

Candidate Starts for AlanGrant\_90:

(Start: 48 @68004 has 8 MA's), (67, 67911), (70, 67878), (80, 67800), (84, 67752), (91, 67716), (94, 67677), (101, 67635), (110, 67584), (112, 67572), (113, 67554), (117, 67524), (119, 67512), (121, 67500), (125, 67491),

Gene: Allegro\_84 Start: 63711, Stop: 63181, Start Num: 41

Candidate Starts for Allegro\_84:

(21, 63888), (Start: 30 @63777 has 17 MA's), (Start: 34 @63759 has 2 MA's), (Start: 41 @63711 has 11 MA's), (45, 63684), (50, 63657), (52, 63648), (62, 63606), (65, 63597), (72, 63501), (80, 63465),

(87, 63393), (103, 63297), (104, 63291), (110, 63249), (112, 63237),

Gene: Antihero\_89 Start: 66371, Stop: 65703, Start Num: 38

Candidate Starts for Antihero\_89:

(Start: 38 @66371 has 17 MA's), (Start: 48 @66320 has 8 MA's), (72, 66152), (74, 66143), (84, 66071), (87, 66047), (101, 65954), (110, 65903), (112, 65891), (113, 65873), (116, 65855), (117, 65852), (118, 65843), (119, 65840), (121, 65828), (129, 65804), (133, 65759), (135, 65747), (136, 65744),

Gene: Apex\_91 Start: 67472, Stop: 66804, Start Num: 38

Candidate Starts for Apex\_91:

(20, 67640), (23, 67577), (Start: 38 @67472 has 17 MA's), (Start: 48 @67421 has 8 MA's), (67, 67331), (72, 67253), (74, 67244), (84, 67172), (87, 67148), (101, 67055), (110, 67004), (112, 66992), (113, 66974), (116, 66956), (117, 66953), (119, 66941), (121, 66929), (129, 66905), (133, 66860), (135, 66848), (136, 66845),

Gene: Arbiter\_81 Start: 63817, Stop: 63221, Start Num: 30

Candidate Starts for Arbiter\_81:

(21, 63928), (Start: 30 @63817 has 17 MA's), (Start: 34 @63799 has 2 MA's), (Start: 41 @63751 has 11 MA's), (45, 63724), (50, 63697), (52, 63688), (62, 63646), (65, 63637), (72, 63541), (80, 63505), (87, 63433), (103, 63337), (104, 63331), (110, 63289), (112, 63277),

Gene: Ares\_84 Start: 63776, Stop: 63180, Start Num: 30

Candidate Starts for Ares\_84:

(21, 63887), (Start: 30 @63776 has 17 MA's), (Start: 34 @63758 has 2 MA's), (Start: 41 @63710 has 11 MA's), (45, 63683), (50, 63656), (52, 63647), (62, 63605), (65, 63596), (72, 63500), (80, 63464), (87, 63392), (103, 63296), (104, 63290), (110, 63248), (112, 63236),

Gene: Athena\_98 Start: 66509, Stop: 66021, Start Num: 60

Candidate Starts for Athena\_98:

(Start: 60 @66509 has 44 MA's), (67, 66470), (68, 66467), (72, 66392), (74, 66383), (83, 66341), (95, 66233), (103, 66191), (112, 66128), (113, 66110),

Gene: Audrey\_96 Start: 65763, Stop: 65275, Start Num: 60

Candidate Starts for Audrey\_96:

(Start: 60 @65763 has 44 MA's), (67, 65724), (68, 65721), (72, 65646), (74, 65637), (83, 65595), (95, 65487), (103, 65445), (112, 65382), (113, 65364),

Gene: Austelle\_90 Start: 68073, Stop: 67420, Start Num: 38

Candidate Starts for Austelle\_90:

(20, 68241), (23, 68178), (Start: 38 @68073 has 17 MA's), (Start: 48 @68022 has 8 MA's), (67, 67929), (70, 67896), (72, 67851), (74, 67842), (84, 67770), (87, 67746), (101, 67653), (110, 67602), (112, 67590), (113, 67572), (116, 67554), (117, 67551), (121, 67527), (136, 67455), (139, 67452),

Gene: Bae\_87 Start: 66191, Stop: 65547, Start Num: 36

Candidate Starts for Bae\_87:

(Start: 36 @66191 has 1 MA's), (Start: 47 @66128 has 4 MA's), (72, 65963), (74, 65954), (91, 65846), (95, 65804), (109, 65729), (112, 65705), (113, 65687), (123, 65651), (127, 65642),

Gene: Baloo\_95 Start: 65616, Stop: 65128, Start Num: 60

Candidate Starts for Baloo\_95:

(Start: 60 @65616 has 44 MA's), (67, 65577), (68, 65574), (72, 65499), (74, 65490), (83, 65448), (95, 65340), (103, 65298), (112, 65235), (113, 65217),

Gene: Bananafish\_85 Start: 63713, Stop: 63117, Start Num: 30

Candidate Starts for Bananafish\_85:

(21, 63824), (Start: 30 @63713 has 17 MA's), (Start: 34 @63695 has 2 MA's), (Start: 41 @63647 has 11 MA's), (45, 63620), (50, 63593), (52, 63584), (62, 63542), (65, 63533), (72, 63437), (80, 63401), (87, 63329), (103, 63233), (104, 63227), (110, 63185), (112, 63173),

Gene: Ben11\_96 Start: 65993, Stop: 65505, Start Num: 60

Candidate Starts for Ben11\_96:

(Start: 60 @65993 has 44 MA's), (67, 65954), (68, 65951), (72, 65876), (74, 65867), (83, 65825), (95, 65717), (103, 65675), (112, 65612), (113, 65594),

Gene: Bernardo\_93 Start: 65287, Stop: 64799, Start Num: 60

Candidate Starts for Bernardo\_93:

(Start: 60 @65287 has 44 MA's), (67, 65248), (68, 65245), (72, 65170), (74, 65161), (83, 65119), (95, 65011), (103, 64969), (112, 64906), (113, 64888),

Gene: BirdsNest\_104 Start: 70091, Stop: 69573, Start Num: 48

Candidate Starts for BirdsNest\_104:

(Start: 48 @70091 has 8 MA's), (50, 70070), (55, 70049), (63, 70022), (64, 70019), (80, 69890), (83, 69872), (87, 69815), (90, 69806), (112, 69656),

Gene: Blocker23\_84 Start: 63711, Stop: 63181, Start Num: 41

Candidate Starts for Blocker23\_84:

(1, 65055), (4, 64545), (7, 64293), (12, 64113), (18, 63984), (Start: 27 @63789 has 1 MA's), (Start: 41 @63711 has 11 MA's), (45, 63684), (50, 63657), (52, 63648), (62, 63606), (65, 63597), (72, 63501), (80, 63465), (87, 63393), (103, 63297), (104, 63291), (110, 63249), (112, 63237),

Gene: BobbyK\_90 Start: 66980, Stop: 66312, Start Num: 38

Candidate Starts for BobbyK\_90:

(20, 67148), (23, 67085), (Start: 38 @66980 has 17 MA's), (Start: 48 @66929 has 8 MA's), (67, 66839), (72, 66761), (74, 66752), (84, 66680), (87, 66656), (101, 66563), (110, 66512), (112, 66500), (113, 66482), (116, 66464), (117, 66461), (119, 66449), (121, 66437), (129, 66413), (133, 66368), (135, 66356), (136, 66353),

Gene: Boyle\_84 Start: 63759, Stop: 63229, Start Num: 41

Candidate Starts for Boyle\_84:

(21, 63936), (Start: 30 @63825 has 17 MA's), (Start: 34 @63807 has 2 MA's), (Start: 41 @63759 has 11 MA's), (45, 63732), (50, 63705), (52, 63696), (62, 63654), (65, 63645), (72, 63549), (80, 63513), (87, 63441), (103, 63345), (104, 63339), (110, 63297), (112, 63285),

Gene: Briakila\_97 Start: 66267, Stop: 65779, Start Num: 60

Candidate Starts for Briakila\_97:

(Start: 60 @66267 has 44 MA's), (67, 66228), (68, 66225), (72, 66150), (74, 66141), (83, 66099), (95, 65991), (103, 65949), (112, 65886), (113, 65868),

Gene: BrownCNA\_90 Start: 67488, Stop: 66835, Start Num: 38

Candidate Starts for BrownCNA\_90:

(20, 67656), (23, 67593), (Start: 38 @67488 has 17 MA's), (Start: 48 @67437 has 8 MA's), (67, 67344), (70, 67311), (72, 67266), (74, 67257), (84, 67185), (87, 67161), (101, 67068), (110, 67017), (112, 67005), (113, 66987), (116, 66969), (117, 66966), (121, 66942), (136, 66870), (139, 66867),

Gene: Brownie5\_84 Start: 63825, Stop: 63229, Start Num: 30

Candidate Starts for Brownie5\_84:

(21, 63936), (Start: 30 @63825 has 17 MA's), (Start: 34 @63807 has 2 MA's), (Start: 41 @63759 has 11 MA's), (45, 63732), (50, 63705), (52, 63696), (62, 63654), (65, 63645), (72, 63549), (80, 63513), (87, 63441), (103, 63345), (104, 63339), (110, 63297), (112, 63285),

Gene: CRB2\_88 Start: 67867, Stop: 67412, Start Num: 57

Candidate Starts for CRB2\_88:

(8, 68446), (17, 68266), (Start: 57 @67867 has 2 MA's), (59, 67858), (63, 67840), (73, 67735), (78, 67708), (87, 67633), (90, 67624), (91, 67621), (110, 67492), (112, 67480), (113, 67462),

Gene: Calamitous\_85 Start: 63642, Stop: 63112, Start Num: 41

Candidate Starts for Calamitous\_85:

(21, 63819), (Start: 30 @63708 has 17 MA's), (Start: 34 @63690 has 2 MA's), (Start: 41 @63642 has 11 MA's), (45, 63615), (50, 63588), (52, 63579), (62, 63537), (65, 63528), (72, 63432), (80, 63396), (87, 63324), (103, 63228), (104, 63222), (110, 63180), (112, 63168),

Gene: Casbah\_96 Start: 66078, Stop: 65590, Start Num: 60

Candidate Starts for Casbah\_96:

(Start: 60 @66078 has 44 MA's), (67, 66039), (68, 66036), (72, 65961), (74, 65952), (83, 65910), (95, 65802), (103, 65760), (112, 65697), (113, 65679),

Gene: ChaChing\_96 Start: 65776, Stop: 65288, Start Num: 60

Candidate Starts for ChaChing\_96:

(Start: 60 @65776 has 44 MA's), (67, 65737), (68, 65734), (72, 65659), (74, 65650), (83, 65608), (95, 65500), (103, 65458), (112, 65395), (113, 65377),

Gene: Chandler\_96 Start: 66552, Stop: 66064, Start Num: 60

Candidate Starts for Chandler\_96:

(Start: 60 @66552 has 44 MA's), (67, 66513), (68, 66510), (72, 66435), (74, 66426), (83, 66384), (95, 66276), (103, 66234), (112, 66171), (113, 66153),

Gene: ChrisnMich\_91 Start: 66059, Stop: 65439, Start Num: 48

Candidate Starts for ChrisnMich\_91:

(13, 66395), (14, 66386), (20, 66218), (Start: 48 @66059 has 8 MA's), (70, 65930), (74, 65876), (76, 65858), (87, 65780), (98, 65693), (110, 65636), (112, 65624), (113, 65606), (116, 65579), (121, 65552), (134, 65492),

Gene: Coffee\_83 Start: 63752, Stop: 63222, Start Num: 41

Candidate Starts for Coffee\_83:

(21, 63929), (Start: 30 @63818 has 17 MA's), (Start: 34 @63800 has 2 MA's), (Start: 41 @63752 has 11 MA's), (45, 63725), (50, 63698), (52, 63689), (62, 63647), (65, 63638), (72, 63542), (80, 63506), (87, 63434), (103, 63338), (104, 63332), (110, 63290), (112, 63278),

Gene: Compostia\_95 Start: 66230, Stop: 65742, Start Num: 60

Candidate Starts for Compostia\_95:

(Start: 60 @66230 has 44 MA's), (67, 66191), (68, 66188), (72, 66113), (74, 66104), (83, 66062), (95, 65954), (103, 65912), (112, 65849), (113, 65831),

Gene: Cooper\_91 Start: 66596, Stop: 65976, Start Num: 48

Candidate Starts for Cooper\_91:

(20, 66749), (Start: 48 @66596 has 8 MA's), (70, 66467), (74, 66413), (76, 66395), (87, 66317), (110, 66173), (112, 66161), (113, 66143), (116, 66116), (121, 66089), (134, 66029),

Gene: Corofin\_96 Start: 65787, Stop: 65299, Start Num: 60

Candidate Starts for Corofin\_96:

(Start: 60 @65787 has 44 MA's), (67, 65748), (68, 65745), (72, 65670), (74, 65661), (83, 65619), (95, 65511), (103, 65469), (112, 65406), (113, 65388),

Gene: Daisy\_95 Start: 65336, Stop: 64848, Start Num: 60

Candidate Starts for Daisy\_95:

(Start: 60 @65336 has 44 MA's), (67, 65297), (68, 65294), (72, 65219), (74, 65210), (83, 65168), (95, 65060), (103, 65018), (112, 64955), (113, 64937),

Gene: Deenasa\_97 Start: 66990, Stop: 66502, Start Num: 60

Candidate Starts for Deenasa\_97:

(Start: 60 @66990 has 44 MA's), (67, 66951), (68, 66948), (72, 66873), (74, 66864), (83, 66822), (95, 66714), (103, 66672), (112, 66609), (113, 66591),

Gene: Devonte\_94 Start: 65402, Stop: 64914, Start Num: 60

Candidate Starts for Devonte\_94:

(Start: 60 @65402 has 44 MA's), (67, 65363), (68, 65360), (72, 65285), (74, 65276), (83, 65234), (95, 65126), (103, 65084), (112, 65021), (113, 65003),

Gene: Donny\_89 Start: 65845, Stop: 65159, Start Num: 33

Candidate Starts for Donny\_89:

(2, 66724), (10, 66229), (25, 65899), (Start: 33 @65845 has 3 MA's), (Start: 47 @65770 has 4 MA's), (72, 65605), (74, 65596), (91, 65488), (109, 65371), (112, 65347), (113, 65329), (123, 65293), (137, 65212),

Gene: EastView9101\_88 Start: 65729, Stop: 65082, Start Num: 37

Candidate Starts for EastView9101\_88:

(26, 65771), (Start: 37 @65729 has 1 MA's), (Start: 47 @65675 has 4 MA's), (72, 65510), (91, 65393), (109, 65276), (112, 65252), (113, 65234), (140, 65117),

Gene: Epah\_89 Start: 66371, Stop: 65703, Start Num: 38

Candidate Starts for Epah\_89:

(Start: 38 @66371 has 17 MA's), (Start: 48 @66320 has 8 MA's), (72, 66152), (74, 66143), (84, 66071), (87, 66047), (101, 65954), (110, 65903), (112, 65891), (113, 65873), (116, 65855), (117, 65852), (118, 65843), (119, 65840), (121, 65828), (129, 65804), (133, 65759), (135, 65747), (136, 65744),

Gene: Fanaw\_85 Start: 67084, Stop: 66422, Start Num: 38

Candidate Starts for Fanaw\_85:

(20, 67252), (23, 67189), (Start: 38 @67084 has 17 MA's), (Start: 48 @67033 has 8 MA's), (67, 66943), (72, 66865), (74, 66856), (84, 66784), (87, 66760), (101, 66667), (103, 66664), (110, 66616), (112, 66604), (113, 66586), (116, 66568), (117, 66565), (119, 66553), (121, 66541), (129, 66517), (130, 66514), (133, 66478), (136, 66463),

Gene: Faze9\_83 Start: 63774, Stop: 63244, Start Num: 41

Candidate Starts for Faze9\_83:

(21, 63951), (Start: 30 @63840 has 17 MA's), (Start: 34 @63822 has 2 MA's), (Start: 41 @63774 has 11 MA's), (45, 63747), (50, 63720), (52, 63711), (62, 63669), (65, 63660), (72, 63564), (80, 63528), (87, 63456), (103, 63360), (104, 63354), (110, 63312), (112, 63300),

Gene: Frederick\_91 Start: 67286, Stop: 66618, Start Num: 38

Candidate Starts for Frederick\_91:

(20, 67454), (23, 67391), (Start: 38 @67286 has 17 MA's), (Start: 48 @67235 has 8 MA's), (67, 67145), (72, 67067), (74, 67058), (84, 66986), (87, 66962), (101, 66869), (110, 66818), (112, 66806), (113, 66788), (116, 66770), (117, 66767), (119, 66755), (121, 66743), (129, 66719), (133, 66674), (135, 66662), (136, 66659),

Gene: FrenchFry\_85 Start: 63827, Stop: 63231, Start Num: 30

Candidate Starts for FrenchFry\_85:

(21, 63938), (Start: 30 @63827 has 17 MA's), (Start: 34 @63809 has 2 MA's), (Start: 41 @63761 has 11 MA's), (45, 63734), (50, 63707), (52, 63698), (62, 63656), (65, 63647), (72, 63551), (80, 63515), (87, 63443), (103, 63347), (104, 63341), (110, 63299), (112, 63287),

Gene: Funsized\_88 Start: 68273, Stop: 67824, Start Num: 56

Candidate Starts for Funsized\_88:

(43, 68339), (44, 68333), (Start: 56 @68273 has 2 MA's), (72, 68144), (73, 68138), (78, 68114), (110, 67898), (112, 67886), (113, 67868), (115, 67856),

Gene: Gervas\_97 Start: 66231, Stop: 65743, Start Num: 60

Candidate Starts for Gervas\_97:

(Start: 60 @66231 has 44 MA's), (67, 66192), (68, 66189), (72, 66114), (74, 66105), (83, 66063), (95, 65955), (103, 65913), (112, 65850), (113, 65832),

Gene: GinPorsche\_89 Start: 66368, Stop: 65700, Start Num: 38

Candidate Starts for GinPorsche\_89:

(6, 67130), (20, 66536), (23, 66473), (Start: 38 @66368 has 17 MA's), (Start: 48 @66317 has 8 MA's), (Start: 56 @66278 has 2 MA's), (67, 66227), (68, 66224), (70, 66194), (72, 66149), (74, 66140), (84, 66068), (87, 66044), (101, 65951), (110, 65900), (112, 65888), (113, 65870), (116, 65852), (117, 65849), (118, 65840), (119, 65837), (121, 65825), (129, 65801), (133, 65756), (135, 65744), (136, 65741),

Gene: Glass\_86 Start: 63834, Stop: 63238, Start Num: 30

Candidate Starts for Glass\_86:

(21, 63945), (Start: 30 @63834 has 17 MA's), (Start: 34 @63816 has 2 MA's), (Start: 41 @63768 has 11 MA's), (45, 63741), (52, 63705), (62, 63663), (65, 63654), (72, 63558), (80, 63522), (87, 63450), (103, 63354), (104, 63348), (110, 63306), (112, 63294),

Gene: GlenHope\_97 Start: 65806, Stop: 65318, Start Num: 60

Candidate Starts for GlenHope\_97:

(Start: 60 @65806 has 44 MA's), (67, 65767), (68, 65764), (72, 65689), (74, 65680), (83, 65638), (95, 65530), (103, 65488), (112, 65425), (113, 65407),

Gene: Godines\_84 Start: 63740, Stop: 63144, Start Num: 30

Candidate Starts for Godines\_84:

(21, 63851), (Start: 30 @63740 has 17 MA's), (Start: 34 @63722 has 2 MA's), (Start: 41 @63674 has 11 MA's), (45, 63647), (52, 63611), (62, 63569), (65, 63560), (72, 63464), (80, 63428), (87, 63356), (103, 63260), (104, 63254), (110, 63212), (112, 63200),

Gene: Gyarad\_0095 Start: 66382, Stop: 65804, Start Num: 42

Candidate Starts for Gyarad\_0095:

(Start: 42 @66382 has 2 MA's), (Start: 49 @66343 has 2 MA's), (Start: 57 @66301 has 2 MA's), (72, 66175), (75, 66154), (80, 66142), (87, 66070), (107, 65956), (112, 65917), (113, 65899),

Gene: Halfpint\_95 Start: 65551, Stop: 65063, Start Num: 60

Candidate Starts for Halfpint\_95:

(Start: 60 @65551 has 44 MA's), (67, 65512), (68, 65509), (72, 65434), (74, 65425), (83, 65383), (95, 65275), (103, 65233), (112, 65170), (113, 65152),

Gene: Hally898\_87 Start: 66208, Stop: 65540, Start Num: 38

Candidate Starts for Hally898\_87:

(6, 66970), (20, 66376), (23, 66313), (Start: 38 @66208 has 17 MA's), (Start: 48 @66157 has 8 MA's), (Start: 56 @66118 has 2 MA's), (67, 66067), (68, 66064), (70, 66034), (72, 65989), (74, 65980), (84, 65908), (87, 65884), (101, 65791), (110, 65740), (112, 65728), (113, 65710), (116, 65692), (117, 65689), (118, 65680), (119, 65677), (121, 65665), (129, 65641), (133, 65596), (135, 65584), (136, 65581),

Gene: Hangman\_90 Start: 67581, Stop: 66913, Start Num: 38

Candidate Starts for Hangman\_90:

(20, 67749), (23, 67686), (Start: 38 @67581 has 17 MA's), (Start: 48 @67530 has 8 MA's), (67, 67440), (72, 67362), (74, 67353), (87, 67257), (101, 67164), (110, 67113), (112, 67101), (113, 67083), (116, 67065), (117, 67062), (119, 67050), (121, 67038), (129, 67014), (135, 66957), (136, 66954),

Gene: HarveySr\_93 Start: 64875, Stop: 64387, Start Num: 60

Candidate Starts for HarveySr\_93:

(Start: 60 @64875 has 44 MA's), (67, 64836), (68, 64833), (72, 64758), (74, 64749), (83, 64707), (95, 64599), (103, 64557), (112, 64494), (113, 64476),

Gene: Hashim76\_103 Start: 69243, Stop: 68725, Start Num: 48

Candidate Starts for Hashim76\_103:

(5, 70089), (Start: 48 @69243 has 8 MA's), (50, 69222), (55, 69201), (63, 69174), (64, 69171), (80, 69042), (83, 69024), (87, 68967), (90, 68958), (112, 68808),

Gene: Heath\_84 Start: 65351, Stop: 64701, Start Num: 38

Candidate Starts for Heath\_84:

(20, 65519), (23, 65456), (Start: 38 @65351 has 17 MA's), (Start: 48 @65300 has 8 MA's), (67, 65210), (72, 65132), (74, 65123), (84, 65051), (87, 65027), (101, 64934), (110, 64883), (112, 64871), (113, 64853), (116, 64835), (117, 64832), (121, 64808), (136, 64736), (139, 64733),

Gene: Heathcliff\_96 Start: 65730, Stop: 65242, Start Num: 60

Candidate Starts for Heathcliff\_96:

(Start: 60 @65730 has 44 MA's), (67, 65691), (68, 65688), (72, 65613), (74, 65604), (83, 65562), (95, 65454), (103, 65412), (112, 65349), (113, 65331),

Gene: Hedgerow\_84 Start: 63791, Stop: 63195, Start Num: 30

Candidate Starts for Hedgerow\_84:

(21, 63902), (Start: 30 @63791 has 17 MA's), (Start: 34 @63773 has 2 MA's), (Start: 41 @63725 has 11 MA's), (45, 63698), (50, 63671), (52, 63662), (62, 63620), (65, 63611), (72, 63515), (80, 63479), (87, 63407), (103, 63311), (104, 63305), (110, 63263), (112, 63251),

Gene: Holeinone\_84 Start: 63681, Stop: 63085, Start Num: 30

Candidate Starts for Holeinone\_84:

(21, 63792), (Start: 30 @63681 has 17 MA's), (Start: 34 @63663 has 2 MA's), (Start: 41 @63615 has 11 MA's), (45, 63588), (52, 63552), (62, 63510), (65, 63501), (72, 63405), (80, 63369), (87, 63297), (103, 63201), (104, 63195), (110, 63153), (112, 63141),

Gene: Hosp\_087 Start: 64231, Stop: 63587, Start Num: 40

Candidate Starts for Hosp\_087:

(21, 64360), (Start: 40 @64231 has 1 MA's), (53, 64174), (72, 64045), (79, 64015), (81, 64012), (87, 63943), (91, 63931), (111, 63790), (112, 63787), (113, 63769), (117, 63742), (122, 63715), (131, 63682),

Gene: Hydro\_90 Start: 67357, Stop: 66692, Start Num: 38

Candidate Starts for Hydro\_90:

(9, 67777), (20, 67525), (23, 67462), (Start: 38 @67357 has 17 MA's), (Start: 48 @67306 has 8 MA's), (67, 67216), (72, 67138), (74, 67129), (84, 67057), (87, 67033), (101, 66940), (110, 66889), (112, 66877), (113, 66859), (114, 66856), (116, 66841), (117, 66838), (119, 66826), (121, 66814), (129, 66790), (135, 66736), (136, 66733),

Gene: Imvubu\_92 Start: 66340, Stop: 65831, Start Num: 46

Candidate Starts for Imvubu\_92:

(31, 66430), (Start: 46 @66340 has 1 MA's), (59, 66280), (74, 66154), (82, 66127), (88, 66049), (107, 65932), (108, 65929), (110, 65905), (112, 65893), (113, 65875), (115, 65863),

Gene: ItsyBitsy1\_81 Start: 63908, Stop: 63312, Start Num: 30

Candidate Starts for ItsyBitsy1\_81:

(21, 64019), (Start: 30 @63908 has 17 MA's), (Start: 34 @63890 has 2 MA's), (Start: 41 @63842 has 11 MA's), (45, 63815), (52, 63779), (62, 63737), (65, 63728), (72, 63632), (80, 63596), (87, 63524), (103, 63428), (104, 63422), (110, 63380), (112, 63368),

Gene: JAMaL\_90 Start: 66895, Stop: 66227, Start Num: 38

Candidate Starts for JAMaL\_90:

(9, 67309), (20, 67057), (23, 66994), (28, 66937), (Start: 38 @66895 has 17 MA's), (Start: 48 @66844 has 8 MA's), (72, 66676), (74, 66667), (84, 66595), (87, 66571), (101, 66478), (110, 66427), (112, 66415), (113, 66397), (114, 66394), (116, 66379), (117, 66376), (119, 66364), (121, 66352), (129, 66328), (133, 66283), (135, 66271), (136, 66268),

Gene: Jackstina\_89 Start: 65647, Stop: 65159, Start Num: 60

Candidate Starts for Jackstina\_89:

(Start: 60 @65647 has 44 MA's), (67, 65608), (68, 65605), (72, 65530), (74, 65521), (83, 65479), (95, 65371), (103, 65329), (112, 65266), (113, 65248),

Gene: JaguarMi\_84 Start: 67336, Stop: 66665, Start Num: 38

Candidate Starts for JaguarMi\_84:

(15, 67675), (16, 67672), (20, 67504), (23, 67441), (Start: 38 @67336 has 17 MA's), (Start: 48 @67285 has 8 MA's), (67, 67195), (80, 67081), (84, 67033), (87, 67009), (92, 66985), (93, 66973), (101, 66916), (110, 66865), (112, 66853), (113, 66835), (116, 66817), (117, 66814), (119, 66802), (121, 66790), (129, 66766), (135, 66712), (136, 66709),

Gene: Jolie1\_089 Start: 66284, Stop: 65610, Start Num: 40

Candidate Starts for Jolie1\_089:

(21, 66428), (Start: 40 @66284 has 1 MA's), (Start: 57 @66203 has 2 MA's), (59, 66194), (72, 66074), (79, 66044), (87, 65972), (91, 65960), (111, 65819), (112, 65816), (113, 65798), (117, 65771), (122, 65747), (128, 65732),

Gene: Kaleb\_84 Start: 63771, Stop: 63241, Start Num: 41

Candidate Starts for Kaleb\_84:

(21, 63948), (Start: 30 @63837 has 17 MA's), (Start: 34 @63819 has 2 MA's), (Start: 41 @63771 has 11 MA's), (45, 63744), (52, 63708), (62, 63666), (65, 63657), (72, 63561), (80, 63525), (87, 63453), (103, 63357), (104, 63351), (110, 63309), (112, 63297),



Gene: Kamiyu\_96 Start: 65734, Stop: 65246, Start Num: 60

Candidate Starts for Kamiyu\_96:

(Start: 60 @65734 has 44 MA's), (67, 65695), (68, 65692), (72, 65617), (74, 65608), (83, 65566), (95, 65458), (103, 65416), (112, 65353), (113, 65335),

Gene: KarasumaRum\_87 Start: 65724, Stop: 65134, Start Num: 47

Candidate Starts for KarasumaRum\_87:

(Start: 30 @65826 has 17 MA's), (32, 65814), (Start: 36 @65796 has 1 MA's), (Start: 47 @65724 has 4 MA's), (72, 65550), (74, 65541), (91, 65433), (109, 65316), (112, 65292), (113, 65274), (127, 65217),

Gene: KayaCho\_87 Start: 66154, Stop: 65498, Start Num: 40

Candidate Starts for KayaCho\_87:

(Start: 40 @66154 has 1 MA's), (Start: 57 @66085 has 2 MA's), (71, 65983), (72, 65956), (78, 65926), (87, 65851), (91, 65839), (103, 65755), (111, 65698), (112, 65695), (113, 65677), (117, 65650), (122, 65623),

Gene: Kheth\_84 Start: 63754, Stop: 63146, Start Num: 27

Candidate Starts for Kheth\_84:

(1, 65020), (4, 64510), (7, 64258), (12, 64078), (18, 63949), (Start: 27 @63754 has 1 MA's), (Start: 41 @63676 has 11 MA's), (45, 63649), (50, 63622), (52, 63613), (62, 63571), (65, 63562), (72, 63466), (80, 63430), (87, 63358), (103, 63262), (104, 63256), (110, 63214), (112, 63202),

Gene: Knocker\_87 Start: 67165, Stop: 66737, Start Num: 56

Candidate Starts for Knocker\_87:

(11, 67660), (Start: 56 @67165 has 2 MA's), (63, 67135), (72, 67036), (74, 67027), (99, 66841), (102, 66835), (112, 66778), (113, 66760),

Gene: Kronus\_96 Start: 66819, Stop: 66331, Start Num: 60

Candidate Starts for Kronus\_96:

(Start: 60 @66819 has 44 MA's), (67, 66780), (68, 66777), (72, 66702), (74, 66693), (83, 66651), (95, 66543), (103, 66501), (112, 66438), (113, 66420),

Gene: Lambano\_87 Start: 66208, Stop: 65540, Start Num: 38

Candidate Starts for Lambano\_87:

(6, 66970), (20, 66376), (23, 66313), (Start: 38 @66208 has 17 MA's), (Start: 48 @66157 has 8 MA's), (Start: 56 @66118 has 2 MA's), (67, 66067), (68, 66064), (70, 66034), (72, 65989), (74, 65980), (84, 65908), (87, 65884), (101, 65791), (110, 65740), (112, 65728), (113, 65710), (116, 65692), (117, 65689), (118, 65680), (119, 65677), (121, 65665), (129, 65641), (133, 65596), (135, 65584), (136, 65581),

Gene: Lars\_85 Start: 63740, Stop: 63210, Start Num: 41

Candidate Starts for Lars\_85:

(4, 64574), (7, 64322), (12, 64142), (18, 64013), (Start: 27 @63818 has 1 MA's), (Start: 41 @63740 has 11 MA's), (45, 63713), (50, 63686), (52, 63677), (62, 63635), (65, 63626), (72, 63530), (80, 63494), (87, 63422), (103, 63326), (104, 63320), (110, 63278), (112, 63266),

Gene: Laurie\_83 Start: 63078, Stop: 62548, Start Num: 41

Candidate Starts for Laurie\_83:

(4, 63918), (7, 63666), (12, 63486), (18, 63357), (Start: 27 @63162 has 1 MA's), (Start: 41 @63078 has 11 MA's), (45, 63051), (50, 63024), (52, 63015), (62, 62973), (65, 62964), (72, 62868), (80, 62832), (87, 62760), (103, 62664), (104, 62658), (110, 62616), (112, 62604),

Gene: Lephleur\_84 Start: 63596, Stop: 63066, Start Num: 41

Candidate Starts for Lephleur\_84:

(21, 63773), (Start: 30 @63662 has 17 MA's), (Start: 34 @63644 has 2 MA's), (Start: 41 @63596 has 11 MA's), (45, 63569), (52, 63533), (62, 63491), (65, 63482), (72, 63386), (80, 63350), (87, 63278), (103, 63182), (104, 63176), (110, 63134), (112, 63122),

Gene: LestyG\_94 Start: 65305, Stop: 64817, Start Num: 60

Candidate Starts for LestyG\_94:

(Start: 60 @65305 has 44 MA's), (67, 65266), (68, 65263), (72, 65188), (74, 65179), (83, 65137), (95, 65029), (103, 64987), (112, 64924), (113, 64906),

Gene: LilMcDreamy\_88 Start: 66128, Stop: 65508, Start Num: 49

Candidate Starts for LilMcDreamy\_88:

(Start: 49 @66128 has 2 MA's), (72, 65966), (80, 65933), (87, 65861), (91, 65849), (97, 65780), (110, 65717), (112, 65705), (141, 65528),

Gene: LizLemon\_84 Start: 63833, Stop: 63237, Start Num: 30

Candidate Starts for LizLemon\_84:

(21, 63944), (Start: 30 @63833 has 17 MA's), (Start: 34 @63815 has 2 MA's), (Start: 41 @63767 has 11 MA's), (45, 63740), (50, 63713), (52, 63704), (62, 63662), (65, 63653), (72, 63557), (80, 63521), (87, 63449), (103, 63353), (104, 63347), (110, 63305), (112, 63293),

Gene: Lolalove\_92 Start: 67385, Stop: 66732, Start Num: 38

Candidate Starts for Lolalove\_92:

(20, 67553), (23, 67490), (Start: 38 @67385 has 17 MA's), (Start: 48 @67334 has 8 MA's), (67, 67241), (70, 67208), (72, 67163), (74, 67154), (84, 67082), (87, 67058), (101, 66965), (110, 66914), (112, 66902), (113, 66884), (116, 66866), (117, 66863), (121, 66839), (136, 66767), (139, 66764),

Gene: Magpie\_86 Start: 67131, Stop: 66481, Start Num: 38

Candidate Starts for Magpie\_86:

(20, 67299), (23, 67236), (Start: 38 @67131 has 17 MA's), (Start: 48 @67080 has 8 MA's), (67, 66990), (70, 66957), (72, 66912), (84, 66831), (87, 66807), (101, 66714), (110, 66663), (112, 66651), (113, 66633), (114, 66630), (116, 66615), (117, 66612), (119, 66600), (121, 66588), (129, 66564),

Gene: Marley1013\_94 Start: 66265, Stop: 65777, Start Num: 60

Candidate Starts for Marley1013\_94:

(Start: 60 @66265 has 44 MA's), (67, 66226), (68, 66223), (72, 66148), (74, 66139), (83, 66097), (95, 65989), (103, 65947), (112, 65884), (113, 65866),

Gene: MasterPo\_85 Start: 63636, Stop: 63106, Start Num: 41

Candidate Starts for MasterPo\_85:

(21, 63813), (Start: 30 @63702 has 17 MA's), (Start: 34 @63684 has 2 MA's), (Start: 41 @63636 has 11 MA's), (45, 63609), (50, 63582), (52, 63573), (62, 63531), (65, 63522), (66, 63516), (72, 63426), (80, 63390), (87, 63318), (103, 63222), (104, 63216), (110, 63174), (112, 63162),

Gene: Mithril\_88 Start: 67142, Stop: 66471, Start Num: 38

Candidate Starts for Mithril\_88:

(20, 67310), (23, 67247), (Start: 38 @67142 has 17 MA's), (Start: 48 @67091 has 8 MA's), (67, 67001), (72, 66923), (74, 66914), (84, 66842), (87, 66818), (96, 66755), (101, 66725), (110, 66674), (112, 66662), (113, 66644), (116, 66626), (117, 66623), (119, 66611), (121, 66599), (129, 66575), (133, 66530), (134, 66521), (135, 66518), (136, 66515),

Gene: MmasiCarm\_97 Start: 66162, Stop: 65674, Start Num: 60

Candidate Starts for MmasiCarm\_97:

(Start: 60 @66162 has 44 MA's), (67, 66123), (68, 66120), (72, 66045), (74, 66036), (83, 65994), (95, 65886), (103, 65844), (112, 65781), (113, 65763),

Gene: Mortcellus\_96 Start: 66900, Stop: 66412, Start Num: 60

Candidate Starts for Mortcellus\_96:

(Start: 60 @66900 has 44 MA's), (67, 66861), (68, 66858), (72, 66783), (74, 66774), (83, 66732), (95, 66624), (103, 66582), (112, 66519), (113, 66501),

Gene: Morty007\_94 Start: 66532, Stop: 66044, Start Num: 60

Candidate Starts for Morty007\_94:

(Start: 60 @66532 has 44 MA's), (67, 66493), (68, 66490), (72, 66415), (74, 66406), (83, 66364), (95, 66256), (103, 66214), (112, 66151), (113, 66133),

Gene: Mudslide\_91 Start: 67615, Stop: 66962, Start Num: 38

Candidate Starts for Mudslide\_91:

(3, 68467), (20, 67783), (23, 67720), (Start: 38 @67615 has 17 MA's), (Start: 48 @67564 has 8 MA's), (67, 67471), (70, 67438), (72, 67393), (74, 67384), (84, 67312), (87, 67288), (101, 67195), (110, 67144), (112, 67132), (113, 67114), (116, 67096), (117, 67093), (121, 67069), (136, 66997), (139, 66994),

Gene: Mysterious\_90 Start: 65876, Stop: 65298, Start Num: 47

Candidate Starts for Mysterious\_90:

(10, 66308), (Start: 47 @65876 has 4 MA's), (69, 65771), (72, 65714), (74, 65705), (87, 65609), (91, 65597), (109, 65480), (110, 65468), (112, 65456), (113, 65438), (123, 65399),

Gene: Nanao\_89 Start: 66221, Stop: 65553, Start Num: 38

Candidate Starts for Nanao\_89:

(6, 66983), (20, 66389), (23, 66326), (Start: 38 @66221 has 17 MA's), (Start: 48 @66170 has 8 MA's), (Start: 56 @66131 has 2 MA's), (67, 66080), (68, 66077), (70, 66047), (72, 66002), (74, 65993), (84, 65921), (87, 65897), (101, 65804), (110, 65753), (112, 65741), (113, 65723), (116, 65705), (117, 65702), (118, 65693), (119, 65690), (121, 65678), (129, 65654), (133, 65609), (135, 65597), (136, 65594),

Gene: Nehemiah\_88 Start: 65744, Stop: 65178, Start Num: 47

Candidate Starts for Nehemiah\_88:

(Start: 47 @65744 has 4 MA's), (69, 65639), (72, 65582), (74, 65573), (87, 65477), (91, 65465), (109, 65348), (110, 65336), (112, 65324), (113, 65306), (123, 65267),

Gene: Neos5\_95 Start: 65988, Stop: 65500, Start Num: 60

Candidate Starts for Neos5\_95:

(Start: 60 @65988 has 44 MA's), (67, 65949), (68, 65946), (72, 65871), (74, 65862), (83, 65820), (95, 65712), (103, 65670), (112, 65607), (113, 65589),

Gene: Nigel\_85 Start: 65605, Stop: 65015, Start Num: 48

Candidate Starts for Nigel\_85:

(20, 65845), (29, 65716), (Start: 48 @65605 has 8 MA's), (61, 65548), (67, 65512), (70, 65479), (72, 65434), (74, 65425), (84, 65353), (87, 65329), (101, 65236), (110, 65185), (112, 65173), (113, 65155), (116, 65128), (117, 65125), (119, 65113), (121, 65101), (138, 65050),

Gene: Nozo\_96 Start: 66541, Stop: 66053, Start Num: 60

Candidate Starts for Nozo\_96:

(Start: 60 @66541 has 44 MA's), (67, 66502), (68, 66499), (72, 66424), (74, 66415), (83, 66373), (95, 66265), (103, 66223), (112, 66160), (113, 66142),

Gene: Obutu\_98 Start: 66345, Stop: 65857, Start Num: 60

Candidate Starts for Obutu\_98:

(Start: 60 @66345 has 44 MA's), (67, 66306), (68, 66303), (72, 66228), (74, 66219), (83, 66177), (95, 66069), (103, 66027), (112, 65964), (113, 65946),

Gene: Opia\_85 Start: 63726, Stop: 63130, Start Num: 30

Candidate Starts for Opia\_85:

(21, 63837), (Start: 30 @63726 has 17 MA's), (Start: 34 @63708 has 2 MA's), (Start: 41 @63660 has 11 MA's), (45, 63633), (50, 63606), (52, 63597), (62, 63555), (65, 63546), (72, 63450), (80, 63414), (87, 63342), (103, 63246), (104, 63240), (110, 63198), (112, 63186),

Gene: OrangeOswald\_95 Start: 65776, Stop: 65288, Start Num: 60

Candidate Starts for OrangeOswald\_95:

(Start: 60 @65776 has 44 MA's), (67, 65737), (68, 65734), (72, 65659), (74, 65650), (83, 65608), (95, 65500), (103, 65458), (112, 65395), (113, 65377),

Gene: PenguinLover67\_87 Start: 65234, Stop: 64770, Start Num: 57

Candidate Starts for PenguinLover67\_87:

(Start: 57 @65234 has 2 MA's), (59, 65225), (78, 65075), (80, 65072), (84, 65024), (91, 64988), (112, 64847), (113, 64829),

Gene: Phaedrus\_91 Start: 65191, Stop: 64703, Start Num: 60

Candidate Starts for Phaedrus\_91:

(Start: 60 @65191 has 44 MA's), (67, 65152), (68, 65149), (72, 65074), (74, 65065), (83, 65023), (95, 64915), (103, 64873), (112, 64810), (113, 64792),

Gene: Phantasmagoria\_83 Start: 63643, Stop: 63113, Start Num: 41

Candidate Starts for Phantasmagoria\_83:

(21, 63820), (Start: 30 @63709 has 17 MA's), (Start: 34 @63691 has 2 MA's), (Start: 41 @63643 has 11 MA's), (45, 63616), (50, 63589), (52, 63580), (62, 63538), (65, 63529), (72, 63433), (80, 63397), (87, 63325), (103, 63229), (104, 63223), (110, 63181), (112, 63169),

Gene: Phayeta\_98 Start: 66026, Stop: 65538, Start Num: 60

Candidate Starts for Phayeta\_98:

(Start: 60 @66026 has 44 MA's), (67, 65987), (68, 65984), (72, 65909), (74, 65900), (83, 65858), (95, 65750), (103, 65708), (112, 65645), (113, 65627),

Gene: Phelemich\_86 Start: 65786, Stop: 65199, Start Num: 47

Candidate Starts for Phelemich\_86:

(Start: 47 @65786 has 4 MA's), (72, 65621), (74, 65612), (87, 65516), (91, 65504), (109, 65387), (110, 65375), (112, 65363), (113, 65345), (123, 65306), (127, 65297),

Gene: Philly\_95 Start: 65624, Stop: 65136, Start Num: 60

Candidate Starts for Philly\_95:

(Start: 60 @65624 has 44 MA's), (67, 65585), (68, 65582), (72, 65507), (74, 65498), (83, 65456), (95, 65348), (103, 65306), (112, 65243), (113, 65225),

Gene: Phlyer\_96 Start: 66486, Stop: 65998, Start Num: 60

Candidate Starts for Phlyer\_96:

(Start: 60 @66486 has 44 MA's), (67, 66447), (68, 66444), (72, 66369), (74, 66360), (83, 66318), (95, 66210), (103, 66168), (112, 66105), (113, 66087),

Gene: Pipefish\_95 Start: 66160, Stop: 65672, Start Num: 60

Candidate Starts for Pipefish\_95:

(Start: 60 @66160 has 44 MA's), (67, 66121), (68, 66118), (72, 66043), (74, 66034), (83, 65992), (95, 65884), (103, 65842), (112, 65779), (113, 65761),

Gene: Poster\_88 Start: 66222, Stop: 65554, Start Num: 38

Candidate Starts for Poster\_88:

(6, 66984), (20, 66390), (23, 66327), (Start: 38 @66222 has 17 MA's), (Start: 48 @66171 has 8 MA's), (Start: 56 @66132 has 2 MA's), (67, 66081), (68, 66078), (70, 66048), (72, 66003), (74, 65994), (84, 65922), (87, 65898), (101, 65805), (110, 65754), (112, 65742), (113, 65724), (116, 65706), (117, 65703), (118, 65694), (119, 65691), (121, 65679), (129, 65655), (133, 65610), (135, 65598), (136, 65595),

Gene: Prince\_90 Start: 67482, Stop: 66829, Start Num: 38

Candidate Starts for Prince\_90:

(3, 68334), (20, 67650), (23, 67587), (Start: 38 @67482 has 17 MA's), (Start: 48 @67431 has 8 MA's), (67, 67338), (70, 67305), (72, 67260), (74, 67251), (84, 67179), (87, 67155), (101, 67062), (110, 67011), (112, 66999), (113, 66981), (116, 66963), (117, 66960), (121, 66936), (136, 66864), (139, 66861),

Gene: QueenPie\_82 Start: 65696, Stop: 65082, Start Num: 48

Candidate Starts for QueenPie\_82:

(15, 66044), (16, 66041), (20, 65876), (Start: 48 @65696 has 8 MA's), (67, 65603), (70, 65570), (74, 65516), (78, 65495), (80, 65492), (91, 65408), (103, 65324), (110, 65276), (112, 65264), (113, 65246), (116, 65228), (117, 65225), (118, 65216), (119, 65213), (121, 65201), (129, 65177), (130, 65174), (133, 65138), (136, 65123),

Gene: Quesadilla\_90 Start: 66835, Stop: 66329, Start Num: 47

Candidate Starts for Quesadilla\_90:

(Start: 47 @66835 has 4 MA's), (58, 66787), (84, 66583), (85, 66580), (89, 66553), (103, 66463), (104, 66457), (112, 66406), (113, 66388), (116, 66370), (120, 66361),

Gene: Qyrzula\_75 Start: 63848, Stop: 63252, Start Num: 30

Candidate Starts for Qyrzula\_75:

(21, 63959), (Start: 30 @63848 has 17 MA's), (Start: 34 @63830 has 2 MA's), (Start: 41 @63782 has 11 MA's), (45, 63755), (50, 63728), (52, 63719), (62, 63677), (65, 63668), (72, 63572), (80, 63536), (87, 63464), (103, 63368), (104, 63362), (110, 63320), (112, 63308),

Gene: RagingRooster\_96 Start: 65772, Stop: 65284, Start Num: 60

Candidate Starts for RagingRooster\_96:

(Start: 60 @65772 has 44 MA's), (67, 65733), (68, 65730), (72, 65655), (74, 65646), (83, 65604), (95, 65496), (103, 65454), (112, 65391), (113, 65373),

Gene: RawrgerThat\_88 Start: 66936, Stop: 66319, Start Num: 48

Candidate Starts for RawrgerThat\_88:

(Start: 48 @66936 has 8 MA's), (54, 66900), (67, 66843), (74, 66756), (78, 66735), (80, 66732), (84, 66684), (86, 66672), (93, 66624), (96, 66597), (105, 66552), (110, 66516), (111, 66507), (113, 66486), (116, 66459), (121, 66432),

Gene: Reprobate\_88 Start: 65791, Stop: 65204, Start Num: 47

Candidate Starts for Reprobate\_88:

(Start: 47 @65791 has 4 MA's), (72, 65626), (74, 65617), (87, 65521), (91, 65509), (109, 65392), (110, 65380), (112, 65368), (113, 65350), (123, 65311), (127, 65302),

Gene: Rhinoforte\_84 Start: 63745, Stop: 63149, Start Num: 30

Candidate Starts for Rhinoforte\_84:

(21, 63856), (Start: 30 @63745 has 17 MA's), (Start: 34 @63727 has 2 MA's), (Start: 41 @63679 has 11 MA's), (45, 63652), (50, 63625), (52, 63616), (62, 63574), (65, 63565), (72, 63469), (80, 63433), (87, 63361), (103, 63265), (104, 63259), (110, 63217), (112, 63205),

Gene: Rinkes\_86 Start: 67114, Stop: 66665, Start Num: 51

Candidate Starts for Rinkes\_86:

(Start: 51 @67114 has 1 MA's), (80, 66943), (82, 66940), (84, 66895), (98, 66772), (106, 66751), (108, 66742), (112, 66706),

Gene: Rita1961\_97 Start: 66117, Stop: 65629, Start Num: 60

Candidate Starts for Rita1961\_97:

(Start: 60 @66117 has 44 MA's), (67, 66078), (68, 66075), (72, 66000), (74, 65991), (83, 65949), (95, 65841), (103, 65799), (112, 65736), (113, 65718),

Gene: Robyn\_98 Start: 67147, Stop: 66548, Start Num: 39

Candidate Starts for Robyn\_98:

(Start: 39 @67147 has 2 MA's), (Start: 42 @67126 has 2 MA's), (Start: 49 @67087 has 2 MA's), (Start: 57 @67045 has 2 MA's), (72, 66919), (75, 66898), (80, 66886), (87, 66814), (107, 66700), (112, 66661), (113, 66643),

Gene: RomaT\_96 Start: 66340, Stop: 65852, Start Num: 60

Candidate Starts for RomaT\_96:

(Start: 60 @66340 has 44 MA's), (67, 66301), (68, 66298), (72, 66223), (74, 66214), (83, 66172), (95, 66064), (103, 66022), (112, 65959), (113, 65941),

Gene: Rosebush\_82 Start: 63817, Stop: 63221, Start Num: 30

Candidate Starts for Rosebush\_82:

(21, 63928), (Start: 30 @63817 has 17 MA's), (Start: 34 @63799 has 2 MA's), (Start: 41 @63751 has 11 MA's), (45, 63724), (52, 63688), (62, 63646), (65, 63637), (72, 63541), (80, 63505), (87, 63433), (103, 63337), (104, 63331), (110, 63289), (112, 63277),

Gene: Sabella\_84 Start: 63653, Stop: 63057, Start Num: 30

Candidate Starts for Sabella\_84:

(21, 63764), (Start: 30 @63653 has 17 MA's), (Start: 34 @63635 has 2 MA's), (Start: 41 @63587 has 11 MA's), (45, 63560), (50, 63533), (52, 63524), (62, 63482), (65, 63473), (72, 63377), (80, 63341), (87, 63269), (103, 63173), (104, 63167), (110, 63125), (112, 63113),

Gene: Saguaro\_82 Start: 64421, Stop: 63921, Start Num: 49

Candidate Starts for Saguaro\_82:

(Start: 49 @64421 has 2 MA's), (80, 64265), (87, 64196), (91, 64184), (100, 64103), (112, 64043), (116, 64007), (117, 64004), (124, 63980), (126, 63974),

Gene: Serendipitous\_89 Start: 65633, Stop: 65031, Start Num: 47

Candidate Starts for Serendipitous\_89:

(Start: 47 @65633 has 4 MA's), (72, 65468), (77, 65444), (83, 65420), (91, 65354), (101, 65273), (103, 65270), (112, 65213), (113, 65195),

Gene: SirJeffery\_87 Start: 65697, Stop: 65122, Start Num: 47

Candidate Starts for SirJeffery\_87:

(26, 65790), (Start: 37 @65748 has 1 MA's), (Start: 47 @65697 has 4 MA's), (72, 65532), (74, 65523), (91, 65415), (109, 65298), (112, 65274), (113, 65256), (123, 65220),

Gene: SlippinJimmy\_99 Start: 67140, Stop: 66652, Start Num: 60

Candidate Starts for SlippinJimmy\_99:

(Start: 60 @67140 has 44 MA's), (67, 67101), (68, 67098), (72, 67023), (74, 67014), (83, 66972), (95, 66864), (103, 66822), (112, 66759), (113, 66741),

Gene: Stinger\_87 Start: 65601, Stop: 64981, Start Num: 48

Candidate Starts for Stinger\_87:

(Start: 48 @65601 has 8 MA's), (53, 65568), (61, 65541), (69, 65484), (70, 65472), (74, 65418), (76, 65400), (87, 65322), (110, 65178), (112, 65166), (113, 65148), (121, 65094),

Gene: StinkyVeggy\_87 Start: 65724, Stop: 65134, Start Num: 47

Candidate Starts for StinkyVeggy\_87:

(Start: 30 @65826 has 17 MA's), (32, 65814), (Start: 36 @65796 has 1 MA's), (Start: 47 @65724 has 4 MA's), (72, 65550), (74, 65541), (91, 65433), (109, 65316), (112, 65292), (113, 65274), (127, 65217),

Gene: Suigeneris\_90 Start: 66233, Stop: 65547, Start Num: 33

Candidate Starts for Suigeneris\_90:

(2, 67112), (10, 66617), (25, 66287), (Start: 33 @66233 has 3 MA's), (Start: 47 @66158 has 4 MA's), (72, 65993), (74, 65984), (91, 65876), (109, 65759), (112, 65735), (113, 65717), (123, 65681), (137, 65600),

Gene: SynergyX\_97 Start: 66082, Stop: 65594, Start Num: 60

Candidate Starts for SynergyX\_97:

(Start: 60 @66082 has 44 MA's), (67, 66043), (68, 66040), (72, 65965), (74, 65956), (83, 65914), (95, 65806), (103, 65764), (112, 65701), (113, 65683),

Gene: TA17A\_85 Start: 63594, Stop: 63064, Start Num: 41

Candidate Starts for TA17A\_85:

(21, 63771), (Start: 30 @63660 has 17 MA's), (Start: 34 @63642 has 2 MA's), (Start: 41 @63594 has 11 MA's), (45, 63567), (52, 63531), (62, 63489), (65, 63480), (72, 63384), (80, 63348), (87, 63276), (103, 63180), (104, 63174), (110, 63132), (112, 63120),

Gene: Tinciduntolum\_85 Start: 63824, Stop: 63228, Start Num: 30

Candidate Starts for Tinciduntolum\_85:

(21, 63935), (Start: 30 @63824 has 17 MA's), (Start: 34 @63806 has 2 MA's), (Start: 41 @63758 has 11 MA's), (45, 63731), (50, 63704), (52, 63695), (62, 63653), (65, 63644), (72, 63548), (80, 63512), (87, 63440), (103, 63344), (104, 63338), (110, 63296), (112, 63284),

Gene: Tres\_84 Start: 63660, Stop: 63079, Start Num: 34

Candidate Starts for Tres\_84:

(21, 63789), (Start: 30 @63678 has 17 MA's), (Start: 34 @63660 has 2 MA's), (Start: 41 @63609 has 11 MA's), (45, 63582), (50, 63555), (52, 63546), (62, 63504), (65, 63495), (72, 63399), (80, 63363), (87, 63291), (103, 63195), (104, 63189), (110, 63147), (112, 63135),

Gene: Tydolla\_92 Start: 65758, Stop: 65270, Start Num: 60

Candidate Starts for Tydolla\_92:

(Start: 60 @65758 has 44 MA's), (67, 65719), (68, 65716), (72, 65641), (74, 65632), (83, 65590), (95, 65482), (103, 65440), (112, 65377), (113, 65359),

Gene: Vaishali24\_97 Start: 66820, Stop: 66230, Start Num: 39

Candidate Starts for Vaishali24\_97:

(19, 67039), (24, 66937), (Start: 39 @66820 has 2 MA's), (Start: 42 @66799 has 2 MA's), (Start: 49 @66760 has 2 MA's), (Start: 57 @66727 has 2 MA's), (72, 66601), (75, 66580), (80, 66568), (87, 66496), (107, 66382), (112, 66343), (113, 66325),

Gene: Vic9\_85 Start: 64144, Stop: 63614, Start Num: 41

Candidate Starts for Vic9\_85:

(4, 64978), (7, 64726), (12, 64546), (18, 64417), (Start: 27 @64222 has 1 MA's), (Start: 41 @64144 has 11 MA's), (45, 64117), (50, 64090), (52, 64081), (62, 64039), (65, 64030), (72, 63934), (80, 63898), (87, 63826), (103, 63730), (104, 63724), (110, 63682), (112, 63670),

Gene: Vincenzo\_89 Start: 68034, Stop: 67441, Start Num: 48

Candidate Starts for Vincenzo\_89:

(Start: 48 @68034 has 8 MA's), (67, 67941), (70, 67908), (80, 67830), (84, 67782), (91, 67746), (94, 67707), (101, 67665), (110, 67614), (112, 67602), (113, 67584), (117, 67554), (119, 67542), (121, 67530), (125, 67521),

Gene: VioletZ\_92 Start: 67510, Stop: 66836, Start Num: 38

Candidate Starts for VioletZ\_92:

(9, 67930), (20, 67678), (23, 67615), (Start: 38 @67510 has 17 MA's), (Start: 48 @67459 has 8 MA's), (67, 67363), (68, 67360), (70, 67330), (72, 67285), (74, 67276), (84, 67204), (87, 67180), (101, 67087), (110, 67036), (112, 67024), (113, 67006), (114, 67003), (116, 66988), (117, 66985), (119, 66973), (121, 66961), (129, 66937), (135, 66880), (136, 66877),

Gene: Vivaldi\_97 Start: 67032, Stop: 66454, Start Num: 42

Candidate Starts for Vivaldi\_97:

(Start: 42 @67032 has 2 MA's), (Start: 49 @66993 has 2 MA's), (Start: 57 @66951 has 2 MA's), (72, 66825), (75, 66804), (80, 66792), (87, 66720), (107, 66606), (112, 66567), (113, 66549),

Gene: Waleliano\_89 Start: 67237, Stop: 66587, Start Num: 38

Candidate Starts for Waleliano\_89:

(20, 67405), (23, 67342), (Start: 38 @67237 has 17 MA's), (Start: 48 @67186 has 8 MA's), (67, 67096), (72, 67018), (74, 67009), (87, 66913), (101, 66820), (110, 66769), (112, 66757), (113, 66739), (116, 66721), (117, 66718), (121, 66694), (129, 66670), (136, 66622),

Gene: West99\_84 Start: 63829, Stop: 63251, Start Num: 34

Candidate Starts for West99\_84:

(21, 63958), (Start: 30 @63847 has 17 MA's), (Start: 34 @63829 has 2 MA's), (Start: 41 @63781 has 11 MA's), (45, 63754), (50, 63727), (52, 63718), (62, 63676), (65, 63667), (72, 63571), (80, 63535), (87, 63463), (103, 63367), (104, 63361), (110, 63319), (112, 63307),

Gene: Xincheng\_82 Start: 67236, Stop: 66616, Start Num: 48

Candidate Starts for Xincheng\_82:

(20, 67455), (23, 67392), (Start: 38 @67287 has 17 MA's), (Start: 48 @67236 has 8 MA's), (67, 67146), (80, 67032), (84, 66984), (87, 66960), (92, 66936), (93, 66924), (101, 66867), (110, 66816), (112, 66804), (113, 66786), (116, 66768), (117, 66765), (119, 66753), (121, 66741), (129, 66717), (135, 66663), (136, 66660),

Gene: Yahalom\_94 Start: 65583, Stop: 65095, Start Num: 60

Candidate Starts for Yahalom\_94:

(Start: 60 @65583 has 44 MA's), (67, 65544), (68, 65541), (72, 65466), (74, 65457), (83, 65415), (95, 65307), (103, 65265), (112, 65202), (113, 65184),



Gene: Yinz\_94 Start: 65180, Stop: 64692, Start Num: 60

Candidate Starts for Yinz\_94:

(22, 65402), (35, 65300), (Start: 60 @65180 has 44 MA's), (67, 65141), (68, 65138), (72, 65063), (74, 65054), (83, 65012), (95, 64904), (103, 64862), (112, 64799), (113, 64781),

Gene: Zemanar\_88 Start: 67185, Stop: 66517, Start Num: 38

Candidate Starts for Zemanar\_88:

(20, 67353), (23, 67290), (Start: 38 @67185 has 17 MA's), (Start: 48 @67134 has 8 MA's), (67, 67044), (72, 66966), (74, 66957), (84, 66885), (87, 66861), (101, 66768), (110, 66717), (112, 66705), (113, 66687), (116, 66669), (117, 66666), (119, 66654), (121, 66642), (129, 66618), (133, 66573), (135, 66561), (136, 66558),