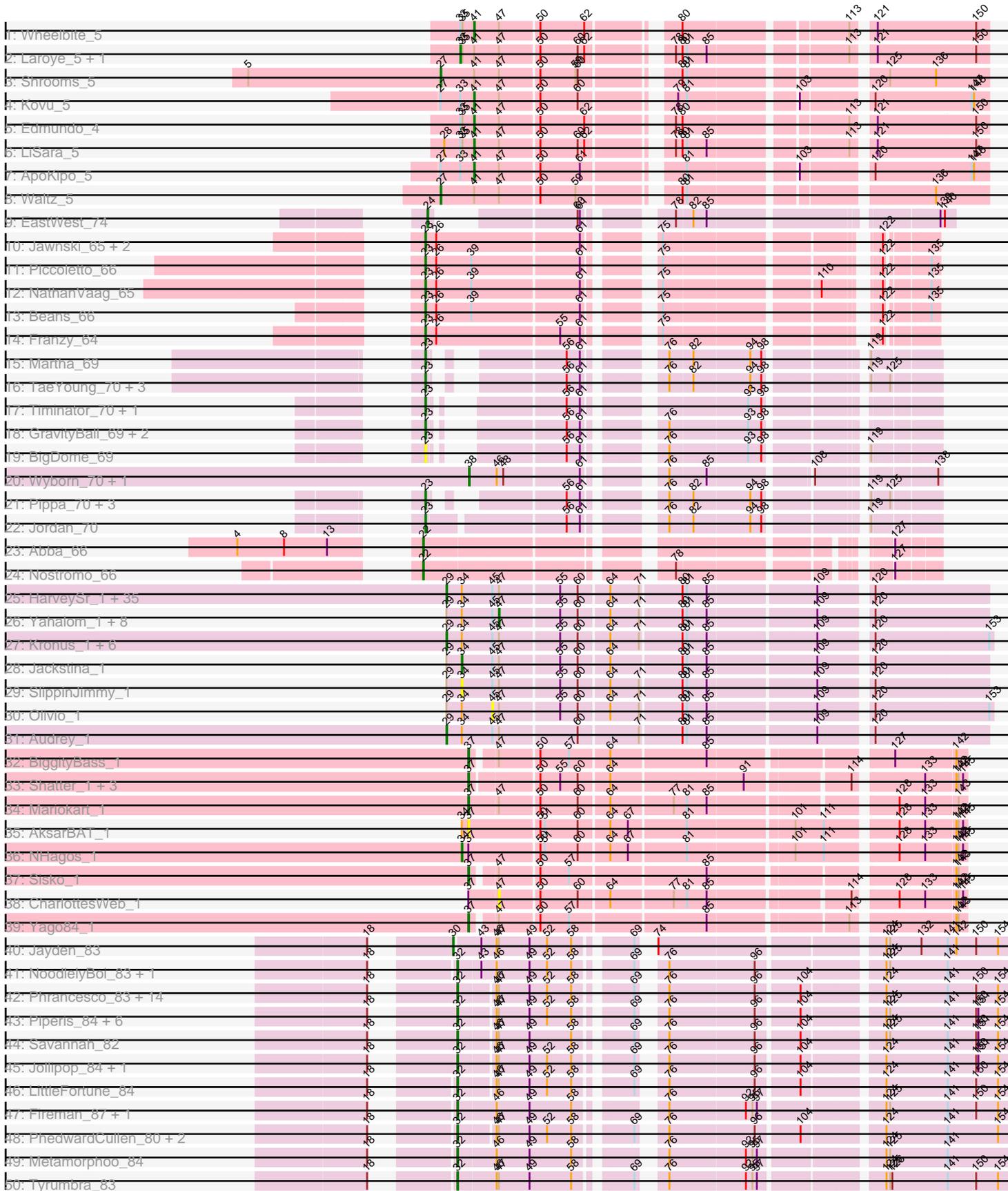
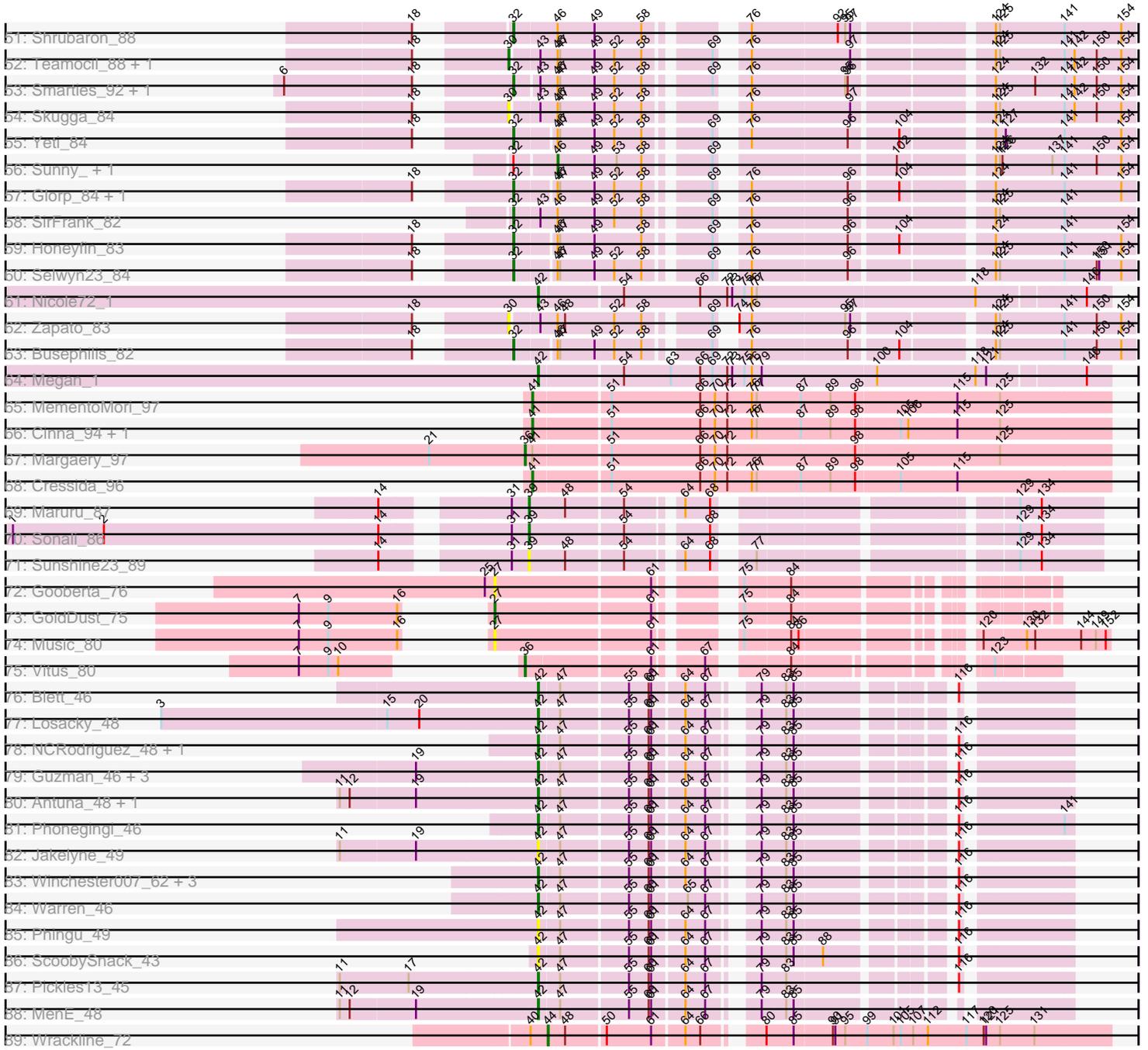


Pham 290871



Pham 290871



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 290871 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290871 has 192 members, 29 are drafts.

Phages represented in each track:

- Track 1 : Wheelbite\_5
- Track 2 : Laroye\_5, Salgado\_5
- Track 3 : Shrooms\_5
- Track 4 : Kovu\_5
- Track 5 : Edmundo\_4
- Track 6 : LiSara\_5
- Track 7 : ApoKipo\_5
- Track 8 : Waltz\_5
- Track 9 : EastWest\_74
- Track 10 : Jawnski\_65, King2\_64, Brent\_66
- Track 11 : Piccoletto\_66
- Track 12 : NathanVaag\_65
- Track 13 : Beans\_66
- Track 14 : Franzy\_64
- Track 15 : Martha\_69
- Track 16 : TaeYoung\_70, JKerns\_69, Grekaycon\_70, BossLady\_71
- Track 17 : Timinator\_70, LeeroyJ\_70
- Track 18 : GravityBall\_69, BarretLemon\_69, StevieBAY\_70
- Track 19 : BigDome\_69
- Track 20 : Wyborn\_70, Sicarius2\_71
- Track 21 : Pippa\_70, Shade\_69, Sonny\_69, Zartrosa\_71
- Track 22 : Jordan\_70
- Track 23 : Abba\_66
- Track 24 : Nostromo\_66
- Track 25 : HarveySr\_1, Briakila\_1, Phlyer\_1, Rita1961\_1, Philly\_1, MmasiCarm\_1, Corofin\_1, Devonte\_1, ChaChing\_1, Abinghost\_1, Gadget\_1, Neos5\_1, Chalmers\_1, GlenHope\_1, SynergyX\_1, Pipefish\_1, Heathcliff\_1, Marley1013\_1, Baloo\_1, RagingRooster\_1, RomaT\_1, Nozo\_1, Compostia\_1, Yinz\_1, Chandler\_1, Athena\_1, Gervas\_1, OrangeOswald\_1, Deenasa\_1, Obutu\_1, Akoma\_1, Glubnar\_1, TinyTerror\_1, LestyG\_1, Daisy\_1, Shenandoah\_1
- Track 26 : Yahalom\_1, Mulaychimus\_1, Marlia\_1, Morty007\_1, Bernardo\_1, Tydolla\_1, Phaedrus\_1, Kamiyu\_1, SwainyDoc\_1
- Track 27 : Kronus\_1, Halfpint\_1, Casbah\_1, Phayeta\_1, Mortcellus\_1, Ben11\_1, Chentzyk\_1
- Track 28 : Jackstina\_1
- Track 29 : SlippinJimmy\_1
- Track 30 : Olivio\_1

- Track 31 : Audrey\_1
- Track 32 : BiggityBass\_1
- Track 33 : Shatter\_1, Fresco\_1, Axumite\_1, Ligma\_1
- Track 34 : Mariokart\_1
- Track 35 : AksarBAT\_1
- Track 36 : NHagos\_1
- Track 37 : Sisko\_1
- Track 38 : CharlottesWeb\_1
- Track 39 : Yago84\_1
- Track 40 : Jayden\_83
- Track 41 : NoodlelyBoi\_83, ClearAsMud\_86
- Track 42 : Phrancesco\_83, KaiHaiDragon\_84, BeagleBug\_82, Onika\_82, Quhwah\_87, EarickHC\_84, Ramiel05\_82, Shotgun\_82, BrazzalePHS\_82, Rockwell\_82, Paschalis\_83, Jefe\_83, Kowalski\_82, PierreOrion\_82, Antares\_83
- Track 43 : Piperis\_84, Pulchra\_85, Cranjjs\_84, Lucretia\_83, Ganandorf\_81, Scumberland\_85, Crisis\_84
- Track 44 : Savannah\_82
- Track 45 : Jollipop\_84, Hermeonysus\_83
- Track 46 : LittleFortune\_84
- Track 47 : Fireman\_87, RobsFeet\_90
- Track 48 : PhedwardCullen\_80, PiperSansNom\_84, CrazyRich\_81
- Track 49 : Metamorphoo\_84
- Track 50 : Tyumbra\_83
- Track 51 : Shrubaron\_88
- Track 52 : Teamocil\_88, Gina\_88
- Track 53 : Smarties\_92, Ariadne\_92
- Track 54 : Skugga\_84
- Track 55 : Yeti\_84
- Track 56 : Sunny\_, Merry\_
- Track 57 : Glorp\_84, Phorgeous\_83
- Track 58 : SirFrank\_82
- Track 59 : Honeyfin\_83
- Track 60 : Selwyn23\_84
- Track 61 : Nicole72\_1
- Track 62 : Zapato\_83
- Track 63 : Busephilis\_82
- Track 64 : Megan\_1
- Track 65 : MementoMori\_97
- Track 66 : Cinna\_94, Matzah\_98
- Track 67 : Margaery\_97
- Track 68 : Cressida\_96
- Track 69 : Maruru\_87
- Track 70 : Sonali\_86
- Track 71 : Sunshine23\_89
- Track 72 : Gooberta\_76
- Track 73 : GoldDust\_75
- Track 74 : Music\_80
- Track 75 : Vitus\_80
- Track 76 : Blett\_46
- Track 77 : Losacky\_48
- Track 78 : NCRodriguez\_48, Bush\_47
- Track 79 : Guzman\_46, CookieDog\_46, Carrillo\_48, Violeta\_48
- Track 80 : Antuna\_48, Mariel\_49

- Track 81 : Phonegingi\_46
- Track 82 : Jakelyne\_49
- Track 83 : Winchester007\_62, Appa\_46, PhillyJawn\_47, Dropshot\_46
- Track 84 : Warren\_46
- Track 85 : Phingu\_49
- Track 86 : ScoobySnack\_43
- Track 87 : Pickles13\_45
- Track 88 : MenE\_48
- Track 89 : Wrackline\_72

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

The start number called the most often in the published annotations is 29, it was called in 43 of the 163 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost\_1, Akoma\_1, Athena\_1, Audrey\_1, Baloo\_1, Ben11\_1, Briakila\_1, Casbah\_1, ChaChing\_1, Chalmers\_1, Chandler\_1, Chentzyk\_1, Compostia\_1, Corofin\_1, Daisy\_1, Deenasa\_1, Devonte\_1, Gadget\_1, Gervas\_1, GlenHope\_1, Glubnar\_1, Halfpint\_1, HarveySr\_1, Heathcliff\_1, Kronus\_1, LestyG\_1, Marley1013\_1, MmasiCarm\_1, Mortcellus\_1, Neos5\_1, Nozo\_1, Obutu\_1, OrangeOswald\_1, Phayeta\_1, Philly\_1, Phlyer\_1, Pipefish\_1, RagingRooster\_1, Rita1961\_1, RomaT\_1, Shenandoah\_1, SynergyX\_1, TinyTerror\_1, Yinz\_1,

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

- Bernardo\_1, Jackstina\_1, Kamiyu\_1, Marlia\_1, Morty007\_1, Mulaychimus\_1, Olivio\_1, Phaedrus\_1, SlippinJimmy\_1, SwainyDoc\_1, Tydolla\_1, Yahalom\_1,

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

- Abba\_66, AksarBAT\_1, Antares\_83, Antuna\_48, ApoKipo\_5, Appa\_46, Ariadne\_92, Axumite\_1, BarretLemon\_69, BeagleBug\_82, Beans\_66, BigDome\_69, BiggityBass\_1, Blett\_46, BossLady\_71, BrazzalePHS\_82, Brent\_66, Busephilis\_82, Bush\_47, Carrillo\_48, CharlottesWeb\_1, Cinna\_94, ClearAsMud\_86, CookieDog\_46, Cranjis\_84, CrazyRich\_81, Cressida\_96, Crisis\_84, Dropshot\_46, EarickHC\_84, EastWest\_74, Edmundo\_4, Fireman\_87, Franzy\_64, Fresco\_1, Ganandorf\_81, Gina\_88, Glorp\_84, GoldDust\_75, Gooberta\_76, GravityBall\_69, Grekaycon\_70, Guzman\_46, Hermeonysus\_83, Honeyfin\_83, JKerns\_69, Jakelyne\_49, Jawnski\_65, Jayden\_83, Jefe\_83, Jollipop\_84, Jordan\_70, KaiHaiDragon\_84, King2\_64, Kovu\_5, Kowalski\_82, Laroye\_5, LeeroyJ\_70, LiSara\_5, Ligma\_1, LittleFortune\_84, Losacky\_48, Lucretia\_83, Margaery\_97, Mariel\_49, Mariokart\_1, Martha\_69, Maruru\_87, Matzah\_98, Megan\_1, MementoMori\_97, MenE\_48, Merry\_, Metamorphoo\_84, Music\_80, NCRodriguez\_48, NHagos\_1, NathanVaag\_65, Nicole72\_1, NoodlelyBoi\_83, Nostromo\_66, Onika\_82, Paschalis\_83, PhedwardCullen\_80, PhillyJawn\_47, Phingu\_49, Phonegingi\_46, Phorgeous\_83, Phrancesco\_83, Piccoletto\_66, Pickles13\_45, PierreOrion\_82, PiperSansNom\_84, Piperis\_84, Pippa\_70, Pulchra\_85, Quhwah\_87, Ramiel05\_82, RobsFeet\_90, Rockwell\_82, Salgado\_5, Savannah\_82, ScoobySnack\_43, Scumberland\_85, Selwyn23\_84, Shade\_69, Shatter\_1, Shotgun\_82, Shrooms\_5, Shrubaron\_88, Sicarius2\_71, SirFrank\_82, Sisko\_1, Skugga\_84, Smarties\_92, Sonali\_86, Sonny\_69, StevieBAY\_70, Sunny\_, Sunshine23\_89, TaeYoung\_70, Teamocil\_88, Timinator\_70,

Tyumbra\_83, Violeta\_48, Vitus\_80, Waltz\_5, Warren\_46, Wheelbite\_5, Winchester007\_62, Wrackline\_72, Wyborn\_70, Yago84\_1, Yeti\_84, Zapato\_83, Zartrosa\_71,

### Summary by start number:

#### Start 22:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 163
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba\_66 (AO3), Nostromo\_66 (AO3),

#### Start 23:

- Found in 23 of 192 ( 12.0% ) of genes in pham
- Manual Annotations of this start: 22 of 163
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BarretLemon\_69 (AO2), Beans\_66 (AO1), BigDome\_69 (AO2), BossLady\_71 (AO2), Brent\_66 (AO1), Franzy\_64 (AO1), GravityBall\_69 (AO2), Grekaycon\_70 (AO2), JKerns\_69 (AO2), Jawnski\_65 (AO1), Jordan\_70 (AO2), King2\_64 (AO1), LeeroyJ\_70 (AO2), Martha\_69 (AO2), NathanVaag\_65 (AO1), Piccoletto\_66 (AO1), Pippa\_70 (AO2), Shade\_69 (AO2), Sonny\_69 (AO2), StevieBAY\_70 (AO2), TaeYoung\_70 (AO2), Timinator\_70 (AO2), Zartrosa\_71 (AO2),

#### Start 24:

- Found in 1 of 192 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 163
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EastWest\_74 (AO),

#### Start 27:

- Found in 7 of 192 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 3 of 163
- Called 71.4% of time when present
- Phage (with cluster) where this start called: GoldDust\_75 (FL), Gooberta\_76 (FL), Music\_80 (FL), Shrooms\_5 (AL), Waltz\_5 (AL),

#### Start 29:

- Found in 56 of 192 ( 29.2% ) of genes in pham
- Manual Annotations of this start: 43 of 163
- Called 78.6% of time when present
- Phage (with cluster) where this start called: Abinghost\_1 (B3), Akoma\_1 (B3), Athena\_1 (B3), Audrey\_1 (B3), Baloo\_1 (B3), Ben11\_1 (B3), Briakila\_1 (B3), Casbah\_1 (B3), ChaChing\_1 (B3), Chalmers\_1 (B3), Chandler\_1 (B3), Chentzyk\_1 (B3), Compostia\_1 (B3), Corofin\_1 (B3), Daisy\_1 (B3), Deenasa\_1 (B3), Devonte\_1 (B3), Gadget\_1 (B3), Gervas\_1 (B3), GlenHope\_1 (B3), Glubnar\_1 (B3), Halfpint\_1 (B3), HarveySr\_1 (B3), Heathcliff\_1 (B3), Kronus\_1 (B3), LestyG\_1 (B3), Marley1013\_1 (B3), MmasiCarm\_1 (B3), Mortcellus\_1 (B3), Neos5\_1 (B3), Nozo\_1 (B3), Obutu\_1 (B3), OrangeOswald\_1 (B3), Phayeta\_1 (B3), Philly\_1 (B3), Phlyer\_1 (B3), Pipefish\_1 (B3), RagingRooster\_1 (B3), Rita1961\_1 (B3), RomaT\_1 (B3), Shenandoah\_1 (B3), SynergyX\_1 (B3), TinyTerror\_1 (B3), Yinz\_1 (B3),

#### Start 30:

- Found in 5 of 192 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 3 of 163
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gina\_88 (EC), Jayden\_83 (EC), Skugga\_84 (EC), Teamocil\_88 (EC), Zapato\_83 (EC),

#### Start 32:

- Found in 47 of 192 ( 24.5% ) of genes in pham
- Manual Annotations of this start: 40 of 163
- Called 95.7% of time when present
- Phage (with cluster) where this start called: Antares\_83 (EC), Ariadne\_92 (EC), BeagleBug\_82 (EC), BrazzalePHS\_82 (EC), Busephilis\_82 (EC), ClearAsMud\_86 (EC), Cranjis\_84 (EC), CrazyRich\_81 (EC), Crisis\_84 (EC), EarickHC\_84 (EC), Fireman\_87 (EC), Ganandorf\_81 (EC), Glorp\_84 (EC), Hermeonysus\_83 (EC), Honeyfin\_83 (EC), Jefe\_83 (EC), Jollipop\_84 (EC), KaiHaiDragon\_84 (EC), Kowalski\_82 (EC), LittleFortune\_84 (EC), Lucretia\_83 (EC), Metamorphoo\_84 (EC), NoodlelyBoi\_83 (EC), Onika\_82 (EC), Paschalis\_83 (EC), PhedwardCullen\_80 (EC), Phorgeous\_83 (EC), Phrancesco\_83 (EC), PierreOrion\_82 (EC), PiperSansNom\_84 (EC), Piperis\_84 (EC), Pulchra\_85 (EC), Quhwah\_87 (EC), Ramiel05\_82 (EC), RobsFeet\_90 (EC), Rockwell\_82 (EC), Savannah\_82 (EC), Scumberland\_85 (EC), Selwyn23\_84 (EC), Shotgun\_82 (EC), Shrubaron\_88 (EC), SirFrank\_82 (EC), Smarties\_92 (EC), Tyrumbra\_83 (EC), Yeti\_84 (EC),

#### Start 33:

- Found in 7 of 192 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 2 of 163
- Called 28.6% of time when present
- Phage (with cluster) where this start called: Laroye\_5 (AL), Salgado\_5 (AL),

#### Start 34:

- Found in 58 of 192 ( 30.2% ) of genes in pham
- Manual Annotations of this start: 2 of 163
- Called 5.2% of time when present
- Phage (with cluster) where this start called: Jackstina\_1 (B3), NHagos\_1 (DR), SlippinJimmy\_1 (B3),

#### Start 36:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 163
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Margaery\_97 (EI), Vitus\_80 (FL),

#### Start 37:

- Found in 11 of 192 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 8 of 163
- Called 81.8% of time when present
- Phage (with cluster) where this start called: AksarBAT\_1 (DR), Axumite\_1 (DR), BiggityBass\_1 (DR), Fresco\_1 (DR), Ligma\_1 (DR), Mariokart\_1 (DR), Shatter\_1 (DR), Sisko\_1 (DR), Yago84\_1 (DR),

#### Start 38:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 163

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sicarius2\_71 (AO2), Wyborn\_70 (AO2),

#### Start 39:

- Found in 6 of 192 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 2 of 163
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Maruru\_87 (FG), Sonali\_86 (FG), Sunshine23\_89 (FG),

#### Start 41:

- Found in 14 of 192 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 9 of 163
- Called 64.3% of time when present
- Phage (with cluster) where this start called: ApoKipo\_5 (AL), Cinna\_94 (EI), Cressida\_96 (EI), Edmundo\_4 (AL), Kovu\_5 (AL), LiSara\_5 (AL), Matzah\_98 (EI), MementoMori\_97 (EI), Wheelbite\_5 (AL),

#### Start 42:

- Found in 23 of 192 ( 12.0% ) of genes in pham
- Manual Annotations of this start: 13 of 163
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antuna\_48 (GA), Appa\_46 (GA), Blett\_46 (GA), Bush\_47 (GA), Carrillo\_48 (GA), CookieDog\_46 (GA), Dropshot\_46 (GA), Guzman\_46 (GA), Jakelyne\_49 (GA), Losacky\_48 (GA), Mariel\_49 (GA), Megan\_1 (EC), MenE\_48 (GA), NCRodriguez\_48 (GA), Nicole72\_1 (EC), PhillyJawn\_47 (GA), Phingu\_49 (GA), Phonegingi\_46 (GA), Pickles13\_45 (GA), ScoobySnack\_43 (GA), Violeta\_48 (GA), Warren\_46 (GA), Winchester007\_62 (GA),

#### Start 44:

- Found in 1 of 192 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 163
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wrackline\_72 (GF),

#### Start 45:

- Found in 56 of 192 ( 29.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.8% of time when present
- Phage (with cluster) where this start called: Olivio\_1 (B3),

#### Start 46:

- Found in 54 of 192 ( 28.1% ) of genes in pham
- Manual Annotations of this start: 2 of 163
- Called 3.7% of time when present
- Phage (with cluster) where this start called: Merry\_ (EC), Sunny\_ (EC),

#### Start 47:

- Found in 133 of 192 ( 69.3% ) of genes in pham
- Manual Annotations of this start: 6 of 163
- Called 7.5% of time when present
- Phage (with cluster) where this start called: Bernardo\_1 (B3), CharlottesWeb\_1 (DR), Kamiyu\_1 (B3), Marlia\_1 (B3), Morty007\_1 (B3), Mulaychimus\_1 (B3),

Phaedrus\_1 (B3), SwainyDoc\_1 (B3), Tydolla\_1 (B3), Yahalom\_1 (B3),

### **Summary by clusters:**

There are 13 clusters represented in this pham: EI, GA, AO, DR, B3, AL, EC, GF, AO3, AO2, AO1, FG, FL,

Info for manual annotations of cluster AL:

- Start number 27 was manually annotated 2 times for cluster AL.
- Start number 33 was manually annotated 2 times for cluster AL.
- Start number 41 was manually annotated 5 times for cluster AL.

Info for manual annotations of cluster AO:

- Start number 24 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 23 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 23 was manually annotated 15 times for cluster AO2.
- Start number 38 was manually annotated 2 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 22 was manually annotated 2 times for cluster AO3.

Info for manual annotations of cluster B3:

- Start number 29 was manually annotated 43 times for cluster B3.
- Start number 34 was manually annotated 1 time for cluster B3.
- Start number 47 was manually annotated 6 times for cluster B3.

Info for manual annotations of cluster DR:

- Start number 34 was manually annotated 1 time for cluster DR.
- Start number 37 was manually annotated 8 times for cluster DR.

Info for manual annotations of cluster EC:

- Start number 30 was manually annotated 3 times for cluster EC.
- Start number 32 was manually annotated 40 times for cluster EC.
- Start number 42 was manually annotated 2 times for cluster EC.
- Start number 46 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 36 was manually annotated 1 time for cluster EI.
- Start number 41 was manually annotated 4 times for cluster EI.

Info for manual annotations of cluster FG:

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

Info for manual annotations of cluster FL:

- Start number 27 was manually annotated 1 time for cluster FL.
- Start number 36 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster GA:

- Start number 42 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster GF:

•Start number 44 was manually annotated 1 time for cluster GF.

**Gene Information:**

Gene: Abba\_66 Start: 41901, Stop: 42479, Start Num: 22

Candidate Starts for Abba\_66:

(4, 41721), (8, 41784), (13, 41841), (Start: 22 @41901 has 2 MA's), (127, 42423),

Gene: Abinghost\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Abinghost\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Akoma\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Akoma\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: AksarBAT\_1 Start: 10, Stop: 633, Start Num: 37

Candidate Starts for AksarBAT\_1:

(Start: 34 @1 has 2 MA's), (Start: 37 @10 has 8 MA's), (50, 103), (51, 109), (60, 154), (64, 193), (67, 217), (81, 292), (101, 424), (111, 463), (128, 547), (133, 580), (142, 619), (143, 622), (145, 628),

Gene: Antares\_83 Start: 49113, Stop: 49772, Start Num: 32

Candidate Starts for Antares\_83:

(18, 49029), (Start: 32 @49113 has 40 MA's), (Start: 46 @49158 has 2 MA's), (Start: 47 @49161 has 6 MA's), (49, 49203), (52, 49227), (58, 49260), (69, 49323), (76, 49344), (96, 49458), (104, 49512), (124, 49608), (141, 49689), (150, 49728), (154, 49758),

Gene: Antuna\_48 Start: 29370, Stop: 29903, Start Num: 42

Candidate Starts for Antuna\_48:

(11, 29136), (12, 29148), (19, 29226), (Start: 42 @29370 has 13 MA's), (Start: 47 @29394 has 6 MA's), (55, 29472), (60, 29496), (61, 29499), (64, 29535), (67, 29559), (79, 29598), (83, 29628), (85, 29637), (116, 29784),

Gene: ApoKipo\_5 Start: 3227, Stop: 3832, Start Num: 41

Candidate Starts for ApoKipo\_5:

(Start: 27 @3182 has 3 MA's), (Start: 33 @3209 has 2 MA's), (Start: 41 @3227 has 9 MA's), (Start: 47 @3257 has 6 MA's), (50, 3308), (61, 3362), (81, 3473), (103, 3602), (120, 3680), (147, 3809), (148, 3812),

Gene: Appa\_46 Start: 29135, Stop: 29668, Start Num: 42

Candidate Starts for Appa\_46:

(Start: 42 @29135 has 13 MA's), (Start: 47 @29159 has 6 MA's), (55, 29237), (60, 29261), (61, 29264), (64, 29300), (67, 29324), (79, 29363), (83, 29393), (85, 29402), (116, 29549),

Gene: Ariadne\_92 Start: 49948, Stop: 50610, Start Num: 32

Candidate Starts for Ariadne\_92:

(6, 49711), (18, 49864), (Start: 32 @49948 has 40 MA's), (43, 49975), (Start: 46 @49996 has 2 MA's), (Start: 47 @49999 has 6 MA's), (49, 50041), (52, 50065), (58, 50098), (69, 50161), (76, 50182), (95, 50293), (96, 50296), (124, 50446), (132, 50491), (141, 50527), (142, 50539), (150, 50566), (154, 50596),

Gene: Athena\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Athena\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Audrey\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Audrey\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (60, 175), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Axumite\_1 Start: 1, Stop: 606, Start Num: 37

Candidate Starts for Axumite\_1:

(Start: 37 @1 has 8 MA's), (50, 85), (55, 112), (60, 136), (64, 175), (91, 349), (114, 472), (133, 553), (142, 592), (143, 595), (145, 601),

Gene: Baloo\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Baloo\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: BarretLemon\_69 Start: 44545, Stop: 45120, Start Num: 23

Candidate Starts for BarretLemon\_69:

(Start: 23 @44545 has 22 MA's), (56, 44716), (61, 44734), (76, 44809), (93, 44911), (98, 44929),

Gene: BeagleBug\_82 Start: 48916, Stop: 49575, Start Num: 32

Candidate Starts for BeagleBug\_82:

(18, 48832), (Start: 32 @48916 has 40 MA's), (Start: 46 @48961 has 2 MA's), (Start: 47 @48964 has 6 MA's), (49, 49006), (52, 49030), (58, 49063), (69, 49126), (76, 49147), (96, 49261), (104, 49315), (124, 49411), (141, 49492), (150, 49531), (154, 49561),

Gene: Beans\_66 Start: 44464, Stop: 45042, Start Num: 23

Candidate Starts for Beans\_66:

(Start: 23 @44464 has 22 MA's), (26, 44479), (Start: 39 @44527 has 2 MA's), (61, 44668), (75, 44737), (122, 44980), (135, 45031),

Gene: Ben11\_1 Start: 1, Stop: 699, Start Num: 29

Candidate Starts for Ben11\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: Bernardo\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Bernardo\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: BigDome\_69 Start: 44829, Stop: 45359, Start Num: 23

Candidate Starts for BigDome\_69:

(Start: 23 @44829 has 22 MA's), (56, 44955), (61, 44973), (76, 45048), (93, 45150), (98, 45168), (119, 45276),

Gene: BiggityBass\_1 Start: 1, Stop: 600, Start Num: 37

Candidate Starts for BiggityBass\_1:

(Start: 37 @1 has 8 MA's), (Start: 47 @28 has 6 MA's), (50, 79), (57, 118), (64, 169), (85, 295), (127, 508), (142, 586),

Gene: Blett\_46 Start: 29321, Stop: 29854, Start Num: 42

Candidate Starts for Blett\_46:

(Start: 42 @29321 has 13 MA's), (Start: 47 @29345 has 6 MA's), (55, 29423), (60, 29447), (61, 29450), (64, 29486), (67, 29510), (79, 29549), (83, 29579), (85, 29588), (116, 29735),

Gene: BossLady\_71 Start: 45159, Stop: 45689, Start Num: 23

Candidate Starts for BossLady\_71:

(Start: 23 @45159 has 22 MA's), (56, 45285), (61, 45303), (76, 45378), (82, 45408), (94, 45483), (98, 45498), (119, 45606), (125, 45627),

Gene: BrazzalePHS\_82 Start: 48913, Stop: 49572, Start Num: 32

Candidate Starts for BrazzalePHS\_82:

(18, 48829), (Start: 32 @48913 has 40 MA's), (Start: 46 @48958 has 2 MA's), (Start: 47 @48961 has 6 MA's), (49, 49003), (52, 49027), (58, 49060), (69, 49123), (76, 49144), (96, 49258), (104, 49312), (124, 49408), (141, 49489), (150, 49528), (154, 49558),

Gene: Brent\_66 Start: 44549, Stop: 45127, Start Num: 23

Candidate Starts for Brent\_66:

(Start: 23 @44549 has 22 MA's), (26, 44564), (61, 44753), (75, 44822), (122, 45065),

Gene: Briakila\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Briakila\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Busephilis\_82 Start: 48820, Stop: 49479, Start Num: 32

Candidate Starts for Busephilis\_82:

(18, 48736), (Start: 32 @48820 has 40 MA's), (Start: 46 @48865 has 2 MA's), (Start: 47 @48868 has 6 MA's), (49, 48910), (52, 48934), (58, 48967), (69, 49030), (76, 49051), (96, 49165), (104, 49219), (124, 49315), (125, 49318), (141, 49396), (150, 49435), (154, 49465),

Gene: Bush\_47 Start: 29269, Stop: 29802, Start Num: 42

Candidate Starts for Bush\_47:

(Start: 42 @29269 has 13 MA's), (Start: 47 @29293 has 6 MA's), (55, 29371), (60, 29395), (61, 29398), (64, 29434), (67, 29458), (79, 29497), (83, 29527), (85, 29536), (116, 29683),

Gene: Carrillo\_48 Start: 29243, Stop: 29776, Start Num: 42

Candidate Starts for Carrillo\_48:

(19, 29099), (Start: 42 @29243 has 13 MA's), (Start: 47 @29267 has 6 MA's), (55, 29345), (60, 29369), (61, 29372), (64, 29408), (67, 29432), (79, 29471), (83, 29501), (85, 29510), (116, 29657),

Gene: Casbah\_1 Start: 1, Stop: 699, Start Num: 29

Candidate Starts for Casbah\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: ChaChing\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for ChaChing\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Chalmers\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Chalmers\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Chandler\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Chandler\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: CharlottesWeb\_1 Start: 40, Stop: 612, Start Num: 47

Candidate Starts for CharlottesWeb\_1:

(Start: 37 @1 has 8 MA's), (Start: 47 @40 has 6 MA's), (50, 91), (60, 142), (64, 181), (77, 262), (81, 280), (85, 307), (114, 478), (128, 526), (133, 559), (142, 598), (143, 601), (145, 607),

Gene: Chentzyk\_1 Start: 1, Stop: 699, Start Num: 29

Candidate Starts for Chentzyk\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: Cinna\_94 Start: 54580, Stop: 55263, Start Num: 41

Candidate Starts for Cinna\_94:

(Start: 41 @54580 has 9 MA's), (51, 54667), (66, 54775), (70, 54793), (72, 54808), (76, 54838), (77, 54844), (87, 54898), (89, 54934), (98, 54964), (105, 55015), (106, 55024), (115, 55081), (125, 55129),

Gene: ClearAsMud\_86 Start: 49132, Stop: 49797, Start Num: 32

Candidate Starts for ClearAsMud\_86:

(18, 49054), (Start: 32 @49132 has 40 MA's), (43, 49162), (Start: 46 @49183 has 2 MA's), (49, 49228), (52, 49252), (58, 49285), (69, 49348), (76, 49369), (96, 49483), (124, 49633), (125, 49636), (141, 49714),

Gene: Compostia\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Compostia\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: CookieDog\_46 Start: 29243, Stop: 29776, Start Num: 42

Candidate Starts for CookieDog\_46:

(19, 29099), (Start: 42 @29243 has 13 MA's), (Start: 47 @29267 has 6 MA's), (55, 29345), (60, 29369), (61, 29372), (64, 29408), (67, 29432), (79, 29471), (83, 29501), (85, 29510), (116, 29657),

Gene: Corofin\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Corofin\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Cranjjs\_84 Start: 49100, Stop: 49759, Start Num: 32

Candidate Starts for Cranjjs\_84:

(18, 49016), (Start: 32 @49100 has 40 MA's), (Start: 46 @49145 has 2 MA's), (Start: 47 @49148 has 6 MA's), (49, 49190), (52, 49214), (58, 49247), (69, 49310), (76, 49331), (96, 49445), (104, 49499), (124, 49595), (125, 49598), (141, 49676), (150, 49715), (151, 49718), (154, 49745),

Gene: CrazyRich\_81 Start: 48604, Stop: 49263, Start Num: 32

Candidate Starts for CrazyRich\_81:

(18, 48526), (Start: 32 @48604 has 40 MA's), (Start: 46 @48649 has 2 MA's), (Start: 47 @48652 has 6 MA's), (49, 48694), (52, 48718), (58, 48751), (69, 48814), (76, 48835), (96, 48949), (104, 49003), (124, 49099), (141, 49180), (154, 49249),

Gene: Cressida\_96 Start: 55174, Stop: 55857, Start Num: 41

Candidate Starts for Cressida\_96:

(Start: 41 @55174 has 9 MA's), (51, 55261), (66, 55369), (70, 55387), (72, 55402), (76, 55432), (77, 55438), (87, 55492), (89, 55528), (98, 55558), (105, 55609), (115, 55675),

Gene: Crisis\_84 Start: 49056, Stop: 49715, Start Num: 32

Candidate Starts for Crisis\_84:

(18, 48972), (Start: 32 @49056 has 40 MA's), (Start: 46 @49101 has 2 MA's), (Start: 47 @49104 has 6 MA's), (49, 49146), (52, 49170), (58, 49203), (69, 49266), (76, 49287), (96, 49401), (104, 49455), (124, 49551), (125, 49554), (141, 49632), (150, 49671), (151, 49674), (154, 49701),

Gene: Daisy\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Daisy\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Deenasa\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Deenasa\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Devonte\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Devonte\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Dropshot\_46 Start: 28970, Stop: 29503, Start Num: 42

Candidate Starts for Dropshot\_46:

(Start: 42 @28970 has 13 MA's), (Start: 47 @28994 has 6 MA's), (55, 29072), (60, 29096), (61, 29099), (64, 29135), (67, 29159), (79, 29198), (83, 29228), (85, 29237), (116, 29384),

Gene: EarickHC\_84 Start: 48978, Stop: 49637, Start Num: 32

Candidate Starts for EarickHC\_84:

(18, 48894), (Start: 32 @48978 has 40 MA's), (Start: 46 @49023 has 2 MA's), (Start: 47 @49026 has 6 MA's), (49, 49068), (52, 49092), (58, 49125), (69, 49188), (76, 49209), (96, 49323), (104, 49377), (124, 49473), (141, 49554), (150, 49593), (154, 49623),

Gene: EastWest\_74 Start: 43726, Stop: 44280, Start Num: 24

Candidate Starts for EastWest\_74:

(Start: 24 @43726 has 1 MA's), (60, 43861), (61, 43864), (78, 43951), (82, 43972), (85, 43990), (139, 44260), (140, 44266),

Gene: Edmundo\_4 Start: 3516, Stop: 4121, Start Num: 41

Candidate Starts for Edmundo\_4:

(Start: 33 @3498 has 2 MA's), (35, 3501), (Start: 41 @3516 has 9 MA's), (Start: 47 @3546 has 6 MA's), (50, 3597), (62, 3657), (78, 3747), (80, 3756), (113, 3951), (121, 3972), (150, 4104),

Gene: Fireman\_87 Start: 50364, Stop: 51029, Start Num: 32

Candidate Starts for Fireman\_87:

(18, 50286), (Start: 32 @50364 has 40 MA's), (Start: 46 @50415 has 2 MA's), (49, 50460), (58, 50517), (76, 50601), (92, 50703), (95, 50712), (97, 50718), (124, 50865), (125, 50868), (141, 50946), (150, 50985), (154, 51015),

Gene: Franzy\_64 Start: 44565, Stop: 45143, Start Num: 23

Candidate Starts for Franzy\_64:

(Start: 23 @44565 has 22 MA's), (26, 44580), (55, 44742), (61, 44769), (75, 44838), (122, 45081),

Gene: Fresco\_1 Start: 1, Stop: 606, Start Num: 37

Candidate Starts for Fresco\_1:

(Start: 37 @1 has 8 MA's), (50, 85), (55, 112), (60, 136), (64, 175), (91, 349), (114, 472), (133, 553), (142, 592), (143, 595), (145, 601),

Gene: Gadjet\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Gadjet\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Ganandorf\_81 Start: 48464, Stop: 49123, Start Num: 32

Candidate Starts for Ganandorf\_81:

(18, 48380), (Start: 32 @48464 has 40 MA's), (Start: 46 @48509 has 2 MA's), (Start: 47 @48512 has 6 MA's), (49, 48554), (52, 48578), (58, 48611), (69, 48674), (76, 48695), (96, 48809), (104, 48863), (124, 48959), (125, 48962), (141, 49040), (150, 49079), (151, 49082), (154, 49109),

Gene: Gervas\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Gervas\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Gina\_88 Start: 48970, Stop: 49635, Start Num: 30

Candidate Starts for Gina\_88:

(18, 48892), (Start: 30 @48970 has 3 MA's), (43, 49000), (Start: 46 @49021 has 2 MA's), (Start: 47 @49024 has 6 MA's), (49, 49066), (52, 49090), (58, 49123), (69, 49186), (76, 49207), (97, 49324), (124, 49471), (125, 49474), (141, 49552), (142, 49564), (150, 49591), (154, 49621),

Gene: GlenHope\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for GlenHope\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Glorp\_84 Start: 48865, Stop: 49524, Start Num: 32

Candidate Starts for Glorp\_84:

(18, 48781), (Start: 32 @48865 has 40 MA's), (Start: 46 @48910 has 2 MA's), (Start: 47 @48913 has 6 MA's), (49, 48955), (52, 48979), (58, 49012), (69, 49075), (76, 49096), (96, 49210), (104, 49264), (124, 49360), (141, 49441), (154, 49510),

Gene: Glubnar\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Glubnar\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: GoldDust\_75 Start: 47538, Stop: 48089, Start Num: 27

Candidate Starts for GoldDust\_75:

(7, 47406), (9, 47442), (16, 47526), (Start: 27 @47538 has 3 MA's), (61, 47721), (75, 47787), (84, 47841),

Gene: Gooberta\_76 Start: 48265, Stop: 48816, Start Num: 27

Candidate Starts for Gooberta\_76:

(25, 48253), (Start: 27 @48265 has 3 MA's), (61, 48448), (75, 48514), (84, 48568),

Gene: GravityBall\_69 Start: 44845, Stop: 45375, Start Num: 23

Candidate Starts for GravityBall\_69:

(Start: 23 @44845 has 22 MA's), (56, 44971), (61, 44989), (76, 45064), (93, 45166), (98, 45184),

Gene: Grekaycon\_70 Start: 45072, Stop: 45602, Start Num: 23

Candidate Starts for Grekaycon\_70:

(Start: 23 @45072 has 22 MA's), (56, 45198), (61, 45216), (76, 45291), (82, 45321), (94, 45396), (98, 45411), (119, 45519), (125, 45540),

Gene: Guzman\_46 Start: 29226, Stop: 29759, Start Num: 42

Candidate Starts for Guzman\_46:

(19, 29082), (Start: 42 @29226 has 13 MA's), (Start: 47 @29250 has 6 MA's), (55, 29328), (60, 29352), (61, 29355), (64, 29391), (67, 29415), (79, 29454), (83, 29484), (85, 29493), (116, 29640),

Gene: Halfpint\_1 Start: 1, Stop: 699, Start Num: 29

Candidate Starts for Halfpint\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: HarveySr\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for HarveySr\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Heathcliff\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Heathcliff\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Hermeonysus\_83 Start: 48821, Stop: 49480, Start Num: 32

Candidate Starts for Hermeonysus\_83:

(18, 48737), (Start: 32 @48821 has 40 MA's), (Start: 46 @48866 has 2 MA's), (Start: 47 @48869 has 6 MA's), (49, 48911), (52, 48935), (58, 48968), (69, 49031), (76, 49052), (96, 49166), (104, 49220), (124, 49316), (141, 49397), (150, 49436), (151, 49439), (154, 49466),

Gene: Honeyfin\_83 Start: 48654, Stop: 49313, Start Num: 32

Candidate Starts for Honeyfin\_83:

(18, 48570), (Start: 32 @48654 has 40 MA's), (Start: 46 @48699 has 2 MA's), (Start: 47 @48702 has 6 MA's), (49, 48744), (58, 48801), (69, 48864), (76, 48885), (96, 48999), (104, 49053), (124, 49149),

(141, 49230), (154, 49299),

Gene: JKerns\_69 Start: 45051, Stop: 45626, Start Num: 23

Candidate Starts for JKerns\_69:

(Start: 23 @45051 has 22 MA's), (56, 45222), (61, 45240), (76, 45315), (82, 45345), (94, 45420), (98, 45435), (119, 45543), (125, 45564),

Gene: Jackstina\_1 Start: 22, Stop: 693, Start Num: 34

Candidate Starts for Jackstina\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Jakelyne\_49 Start: 29336, Stop: 29869, Start Num: 42

Candidate Starts for Jakelyne\_49:

(11, 29102), (19, 29192), (Start: 42 @29336 has 13 MA's), (Start: 47 @29360 has 6 MA's), (55, 29438), (60, 29462), (61, 29465), (64, 29501), (67, 29525), (79, 29564), (83, 29594), (85, 29603), (116, 29750),

Gene: Jawnski\_65 Start: 44074, Stop: 44652, Start Num: 23

Candidate Starts for Jawnski\_65:

(Start: 23 @44074 has 22 MA's), (26, 44089), (61, 44278), (75, 44347), (122, 44590),

Gene: Jayden\_83 Start: 48575, Stop: 49243, Start Num: 30

Candidate Starts for Jayden\_83:

(18, 48497), (Start: 30 @48575 has 3 MA's), (43, 48608), (Start: 46 @48629 has 2 MA's), (Start: 47 @48632 has 6 MA's), (49, 48674), (52, 48698), (58, 48731), (69, 48794), (74, 48800), (124, 49079), (125, 49082), (132, 49124), (141, 49160), (142, 49172), (150, 49199), (154, 49229),

Gene: Jefe\_83 Start: 48876, Stop: 49535, Start Num: 32

Candidate Starts for Jefe\_83:

(18, 48792), (Start: 32 @48876 has 40 MA's), (Start: 46 @48921 has 2 MA's), (Start: 47 @48924 has 6 MA's), (49, 48966), (52, 48990), (58, 49023), (69, 49086), (76, 49107), (96, 49221), (104, 49275), (124, 49371), (141, 49452), (150, 49491), (154, 49521),

Gene: Jollipop\_84 Start: 49241, Stop: 49900, Start Num: 32

Candidate Starts for Jollipop\_84:

(18, 49157), (Start: 32 @49241 has 40 MA's), (Start: 46 @49286 has 2 MA's), (Start: 47 @49289 has 6 MA's), (49, 49331), (52, 49355), (58, 49388), (69, 49451), (76, 49472), (96, 49586), (104, 49640), (124, 49736), (141, 49817), (150, 49856), (151, 49859), (154, 49886),

Gene: Jordan\_70 Start: 45176, Stop: 45751, Start Num: 23

Candidate Starts for Jordan\_70:

(Start: 23 @45176 has 22 MA's), (56, 45347), (61, 45365), (76, 45440), (82, 45470), (94, 45545), (98, 45560), (119, 45668),

Gene: KaiHaiDragon\_84 Start: 48978, Stop: 49637, Start Num: 32

Candidate Starts for KaiHaiDragon\_84:

(18, 48894), (Start: 32 @48978 has 40 MA's), (Start: 46 @49023 has 2 MA's), (Start: 47 @49026 has 6 MA's), (49, 49068), (52, 49092), (58, 49125), (69, 49188), (76, 49209), (96, 49323), (104, 49377), (124, 49473), (141, 49554), (150, 49593), (154, 49623),

Gene: Kamiyu\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Kamiyu\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: King2\_64 Start: 44610, Stop: 45188, Start Num: 23

Candidate Starts for King2\_64:

(Start: 23 @44610 has 22 MA's), (26, 44625), (61, 44814), (75, 44883), (122, 45126),

Gene: Kovu\_5 Start: 3470, Stop: 4075, Start Num: 41

Candidate Starts for Kovu\_5:

(Start: 27 @3425 has 3 MA's), (Start: 33 @3452 has 2 MA's), (Start: 41 @3470 has 9 MA's), (Start: 47 @3500 has 6 MA's), (50, 3551), (60, 3602), (79, 3704), (81, 3716), (103, 3845), (120, 3923), (147, 4052), (148, 4055),

Gene: Kowalski\_82 Start: 48908, Stop: 49567, Start Num: 32

Candidate Starts for Kowalski\_82:

(18, 48824), (Start: 32 @48908 has 40 MA's), (Start: 46 @48953 has 2 MA's), (Start: 47 @48956 has 6 MA's), (49, 48998), (52, 49022), (58, 49055), (69, 49118), (76, 49139), (96, 49253), (104, 49307), (124, 49403), (141, 49484), (150, 49523), (154, 49553),

Gene: Kronus\_1 Start: 1, Stop: 699, Start Num: 29

Candidate Starts for Kronus\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: Laroye\_5 Start: 3276, Stop: 3899, Start Num: 33

Candidate Starts for Laroye\_5:

(Start: 33 @3276 has 2 MA's), (35, 3279), (Start: 41 @3294 has 9 MA's), (Start: 47 @3324 has 6 MA's), (50, 3375), (60, 3426), (62, 3435), (78, 3525), (80, 3534), (81, 3540), (85, 3567), (113, 3729), (121, 3750), (150, 3882),

Gene: LeeroyJ\_70 Start: 44774, Stop: 45304, Start Num: 23

Candidate Starts for LeeroyJ\_70:

(Start: 23 @44774 has 22 MA's), (56, 44900), (61, 44918), (93, 45095), (98, 45113),

Gene: LestyG\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for LestyG\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: LiSara\_5 Start: 3325, Stop: 3930, Start Num: 41

Candidate Starts for LiSara\_5:

(28, 3286), (Start: 33 @3307 has 2 MA's), (35, 3310), (Start: 41 @3325 has 9 MA's), (Start: 47 @3355 has 6 MA's), (50, 3406), (60, 3457), (62, 3466), (78, 3556), (80, 3565), (81, 3571), (85, 3598), (113, 3760), (121, 3781), (150, 3913),

Gene: Ligma\_1 Start: 1, Stop: 606, Start Num: 37

Candidate Starts for Ligma\_1:

(Start: 37 @1 has 8 MA's), (50, 85), (55, 112), (60, 136), (64, 175), (91, 349), (114, 472), (133, 553), (142, 592), (143, 595), (145, 601),

Gene: LittleFortune\_84 Start: 48891, Stop: 49550, Start Num: 32

Candidate Starts for LittleFortune\_84:

(18, 48813), (Start: 32 @48891 has 40 MA's), (Start: 46 @48936 has 2 MA's), (Start: 47 @48939 has 6 MA's), (49, 48981), (52, 49005), (58, 49038), (69, 49101), (76, 49122), (96, 49236), (104, 49290), (124, 49386), (141, 49467), (150, 49506), (154, 49536),

Gene: Losacky\_48 Start: 29501, Stop: 30034, Start Num: 42

Candidate Starts for Losacky\_48:

(3, 29048), (15, 29321), (20, 29360), (Start: 42 @29501 has 13 MA's), (Start: 47 @29525 has 6 MA's), (55, 29603), (60, 29627), (61, 29630), (64, 29666), (67, 29690), (79, 29729), (83, 29759), (85, 29768),

Gene: Lucretia\_83 Start: 48950, Stop: 49609, Start Num: 32

Candidate Starts for Lucretia\_83:

(18, 48866), (Start: 32 @48950 has 40 MA's), (Start: 46 @48995 has 2 MA's), (Start: 47 @48998 has 6 MA's), (49, 49040), (52, 49064), (58, 49097), (69, 49160), (76, 49181), (96, 49295), (104, 49349), (124, 49445), (125, 49448), (141, 49526), (150, 49565), (151, 49568), (154, 49595),

Gene: Margaery\_97 Start: 55238, Stop: 55930, Start Num: 36

Candidate Starts for Margaery\_97:

(21, 55121), (Start: 36 @55238 has 2 MA's), (Start: 41 @55247 has 9 MA's), (51, 55334), (66, 55442), (70, 55460), (72, 55475), (98, 55631), (125, 55796),

Gene: Mariel\_49 Start: 29708, Stop: 30241, Start Num: 42

Candidate Starts for Mariel\_49:

(11, 29474), (12, 29486), (19, 29564), (Start: 42 @29708 has 13 MA's), (Start: 47 @29732 has 6 MA's), (55, 29810), (60, 29834), (61, 29837), (64, 29873), (67, 29897), (79, 29936), (83, 29966), (85, 29975), (116, 30122),

Gene: Mariokart\_1 Start: 1, Stop: 612, Start Num: 37

Candidate Starts for Mariokart\_1:

(Start: 37 @1 has 8 MA's), (Start: 47 @40 has 6 MA's), (50, 91), (60, 142), (64, 181), (77, 262), (81, 280), (85, 307), (128, 526), (133, 559), (143, 601),

Gene: Marley1013\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Marley1013\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Marlia\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Marlia\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Martha\_69 Start: 45008, Stop: 45538, Start Num: 23

Candidate Starts for Martha\_69:

(Start: 23 @45008 has 22 MA's), (56, 45134), (61, 45152), (76, 45227), (82, 45257), (94, 45332), (98, 45347), (119, 45455),

Gene: Maruru\_87 Start: 52831, Stop: 53424, Start Num: 39

Candidate Starts for Maruru\_87:

(14, 52684), (31, 52810), (Start: 39 @52831 has 2 MA's), (48, 52873), (54, 52939), (64, 52993), (68, 53023), (129, 53326), (134, 53350),

Gene: Matzah\_98 Start: 54900, Stop: 55583, Start Num: 41

Candidate Starts for Matzah\_98:

(Start: 41 @54900 has 9 MA's), (51, 54987), (66, 55095), (70, 55113), (72, 55128), (76, 55158), (77, 55164), (87, 55218), (89, 55254), (98, 55284), (105, 55335), (106, 55344), (115, 55401), (125, 55449),

Gene: Megan\_1 Start: 1, Stop: 666, Start Num: 42

Candidate Starts for Megan\_1:

(Start: 42 @1 has 13 MA's), (54, 97), (63, 154), (66, 190), (69, 205), (72, 223), (73, 229), (75, 244), (76, 253), (79, 265), (100, 403), (118, 517), (121, 529), (146, 637),

Gene: MementoMori\_97 Start: 54789, Stop: 55472, Start Num: 41

Candidate Starts for MementoMori\_97:

(Start: 41 @54789 has 9 MA's), (51, 54876), (66, 54984), (70, 55002), (72, 55017), (76, 55047), (77, 55053), (87, 55107), (89, 55143), (98, 55173), (115, 55290), (125, 55338),

Gene: MenE\_48 Start: 29392, Stop: 29925, Start Num: 42

Candidate Starts for MenE\_48:

(11, 29158), (12, 29170), (19, 29248), (Start: 42 @29392 has 13 MA's), (Start: 47 @29416 has 6 MA's), (55, 29494), (60, 29518), (61, 29521), (64, 29557), (67, 29581), (79, 29620), (83, 29650), (85, 29659),

Gene: Merry\_ Start: 49109, Stop: 49729, Start Num: 46

Candidate Starts for Merry\_:

(Start: 32 @49061 has 40 MA's), (Start: 46 @49109 has 2 MA's), (49, 49154), (53, 49181), (58, 49211), (69, 49274), (102, 49460), (124, 49559), (125, 49562), (126, 49565), (137, 49625), (141, 49640), (150, 49679), (154, 49709),

Gene: Metamorphoo\_84 Start: 49657, Stop: 50322, Start Num: 32

Candidate Starts for Metamorphoo\_84:

(18, 49579), (Start: 32 @49657 has 40 MA's), (Start: 46 @49708 has 2 MA's), (49, 49753), (58, 49810), (76, 49894), (92, 49996), (95, 50005), (97, 50011), (124, 50158), (125, 50161), (141, 50239),

Gene: MmasiCarm\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for MmasiCarm\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Mortcellus\_1 Start: 1, Stop: 699, Start Num: 29

Candidate Starts for Mortcellus\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: Morty007\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Morty007\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Mulaychimus\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Mulaychimus\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Music\_80 Start: 47968, Stop: 48591, Start Num: 27

Candidate Starts for Music\_80:

(7, 47836), (9, 47872), (16, 47956), (Start: 27 @47968 has 3 MA's), (61, 48151), (75, 48217), (84, 48271), (86, 48280), (120, 48445), (130, 48493), (132, 48502), (144, 48556), (149, 48574), (152,

48586),

Gene: NCRodriguez\_48 Start: 29462, Stop: 29995, Start Num: 42

Candidate Starts for NCRodriguez\_48:

(Start: 42 @29462 has 13 MA's), (Start: 47 @29486 has 6 MA's), (55, 29564), (60, 29588), (61, 29591), (64, 29627), (67, 29651), (79, 29690), (83, 29720), (85, 29729), (116, 29876),

Gene: NHagos\_1 Start: 1, Stop: 633, Start Num: 34

Candidate Starts for NHagos\_1:

(Start: 34 @1 has 2 MA's), (Start: 37 @10 has 8 MA's), (50, 103), (51, 109), (60, 154), (64, 193), (67, 217), (81, 292), (101, 424), (111, 463), (128, 547), (133, 580), (142, 619), (143, 622), (145, 628),

Gene: NathanVaag\_65 Start: 44298, Stop: 44876, Start Num: 23

Candidate Starts for NathanVaag\_65:

(Start: 23 @44298 has 22 MA's), (26, 44313), (Start: 39 @44361 has 2 MA's), (61, 44502), (75, 44571), (110, 44763), (122, 44814), (135, 44865),

Gene: Neos5\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Neos5\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Nicole72\_1 Start: 1, Stop: 666, Start Num: 42

Candidate Starts for Nicole72\_1:

(Start: 42 @1 has 13 MA's), (54, 97), (66, 190), (72, 223), (73, 229), (75, 244), (76, 253), (77, 259), (118, 517), (146, 637),

Gene: NoodlelyBoi\_83 Start: 49237, Stop: 49902, Start Num: 32

Candidate Starts for NoodlelyBoi\_83:

(18, 49159), (Start: 32 @49237 has 40 MA's), (43, 49267), (Start: 46 @49288 has 2 MA's), (49, 49333), (52, 49357), (58, 49390), (69, 49453), (76, 49474), (96, 49588), (124, 49738), (125, 49741), (141, 49819),

Gene: Nostromo\_66 Start: 42650, Stop: 43228, Start Num: 22

Candidate Starts for Nostromo\_66:

(Start: 22 @42650 has 2 MA's), (78, 42941), (127, 43172),

Gene: Nozo\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Nozo\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Obutu\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Obutu\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Olivio\_1 Start: 64, Stop: 699, Start Num: 45

Candidate Starts for Olivio\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: Onika\_82 Start: 48879, Stop: 49538, Start Num: 32

Candidate Starts for Onika\_82:

(18, 48795), (Start: 32 @48879 has 40 MA's), (Start: 46 @48924 has 2 MA's), (Start: 47 @48927 has 6 MA's), (49, 48969), (52, 48993), (58, 49026), (69, 49089), (76, 49110), (96, 49224), (104, 49278), (124, 49374), (141, 49455), (150, 49494), (154, 49524),

Gene: OrangeOswald\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for OrangeOswald\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Paschalis\_83 Start: 48906, Stop: 49565, Start Num: 32

Candidate Starts for Paschalis\_83:

(18, 48822), (Start: 32 @48906 has 40 MA's), (Start: 46 @48951 has 2 MA's), (Start: 47 @48954 has 6 MA's), (49, 48996), (52, 49020), (58, 49053), (69, 49116), (76, 49137), (96, 49251), (104, 49305), (124, 49401), (141, 49482), (150, 49521), (154, 49551),

Gene: Phaedrus\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Phaedrus\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Phayeta\_1 Start: 1, Stop: 699, Start Num: 29

Candidate Starts for Phayeta\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541), (153, 694),

Gene: PhedwardCullen\_80 Start: 48351, Stop: 49010, Start Num: 32

Candidate Starts for PhedwardCullen\_80:

(18, 48273), (Start: 32 @48351 has 40 MA's), (Start: 46 @48396 has 2 MA's), (Start: 47 @48399 has 6 MA's), (49, 48441), (52, 48465), (58, 48498), (69, 48561), (76, 48582), (96, 48696), (104, 48750), (124, 48846), (141, 48927), (154, 48996),

Gene: Philly\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Philly\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: PhillyJawn\_47 Start: 29132, Stop: 29665, Start Num: 42

Candidate Starts for PhillyJawn\_47:

(Start: 42 @29132 has 13 MA's), (Start: 47 @29156 has 6 MA's), (55, 29234), (60, 29258), (61, 29261), (64, 29297), (67, 29321), (79, 29360), (83, 29390), (85, 29399), (116, 29546),

Gene: Phingu\_49 Start: 29357, Stop: 29890, Start Num: 42

Candidate Starts for Phingu\_49:

(Start: 42 @29357 has 13 MA's), (Start: 47 @29381 has 6 MA's), (55, 29459), (60, 29483), (61, 29486), (64, 29522), (67, 29546), (79, 29585), (83, 29615), (85, 29624), (116, 29771),

Gene: Phlyer\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Phlyer\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Phonegingi\_46 Start: 29171, Stop: 29704, Start Num: 42

Candidate Starts for Phonegingi\_46:

(Start: 42 @29171 has 13 MA's), (Start: 47 @29195 has 6 MA's), (55, 29273), (60, 29297), (61, 29300), (64, 29336), (67, 29360), (79, 29399), (83, 29429), (85, 29438), (116, 29585), (141, 29693),

Gene: Phorgeous\_83 Start: 48695, Stop: 49354, Start Num: 32

Candidate Starts for Phorgeous\_83:

(18, 48611), (Start: 32 @48695 has 40 MA's), (Start: 46 @48740 has 2 MA's), (Start: 47 @48743 has 6 MA's), (49, 48785), (52, 48809), (58, 48842), (69, 48905), (76, 48926), (96, 49040), (104, 49094), (124, 49190), (141, 49271), (154, 49340),

Gene: Phrancesco\_83 Start: 49006, Stop: 49665, Start Num: 32

Candidate Starts for Phrancesco\_83:

(18, 48922), (Start: 32 @49006 has 40 MA's), (Start: 46 @49051 has 2 MA's), (Start: 47 @49054 has 6 MA's), (49, 49096), (52, 49120), (58, 49153), (69, 49216), (76, 49237), (96, 49351), (104, 49405), (124, 49501), (141, 49582), (150, 49621), (154, 49651),

Gene: Piccoletto\_66 Start: 44460, Stop: 45038, Start Num: 23

Candidate Starts for Piccoletto\_66:

(Start: 23 @44460 has 22 MA's), (26, 44475), (Start: 39 @44523 has 2 MA's), (61, 44664), (75, 44733), (122, 44976), (135, 45027),

Gene: Pickles13\_45 Start: 29439, Stop: 29972, Start Num: 42

Candidate Starts for Pickles13\_45:

(11, 29202), (17, 29286), (Start: 42 @29439 has 13 MA's), (Start: 47 @29463 has 6 MA's), (55, 29541), (60, 29565), (61, 29568), (64, 29604), (67, 29628), (79, 29667), (83, 29697), (116, 29853),

Gene: PierreOrion\_82 Start: 48715, Stop: 49374, Start Num: 32

Candidate Starts for PierreOrion\_82:

(18, 48631), (Start: 32 @48715 has 40 MA's), (Start: 46 @48760 has 2 MA's), (Start: 47 @48763 has 6 MA's), (49, 48805), (52, 48829), (58, 48862), (69, 48925), (76, 48946), (96, 49060), (104, 49114), (124, 49210), (141, 49291), (150, 49330), (154, 49360),

Gene: Pipefish\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Pipefish\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: PiperSansNom\_84 Start: 49209, Stop: 49868, Start Num: 32

Candidate Starts for PiperSansNom\_84:

(18, 49131), (Start: 32 @49209 has 40 MA's), (Start: 46 @49254 has 2 MA's), (Start: 47 @49257 has 6 MA's), (49, 49299), (52, 49323), (58, 49356), (69, 49419), (76, 49440), (96, 49554), (104, 49608), (124, 49704), (141, 49785), (154, 49854),

Gene: Piperis\_84 Start: 48814, Stop: 49473, Start Num: 32

Candidate Starts for Piperis\_84:

(18, 48730), (Start: 32 @48814 has 40 MA's), (Start: 46 @48859 has 2 MA's), (Start: 47 @48862 has 6 MA's), (49, 48904), (52, 48928), (58, 48961), (69, 49024), (76, 49045), (96, 49159), (104, 49213), (124, 49309), (125, 49312), (141, 49390), (150, 49429), (151, 49432), (154, 49459),

Gene: Pippa\_70 Start: 45043, Stop: 45573, Start Num: 23

Candidate Starts for Pippa\_70:

(Start: 23 @45043 has 22 MA's), (56, 45169), (61, 45187), (76, 45262), (82, 45292), (94, 45367), (98, 45382), (119, 45490), (125, 45511),

Gene: Pulchra\_85 Start: 49381, Stop: 50040, Start Num: 32

Candidate Starts for Pulchra\_85:

(18, 49297), (Start: 32 @49381 has 40 MA's), (Start: 46 @49426 has 2 MA's), (Start: 47 @49429 has 6 MA's), (49, 49471), (52, 49495), (58, 49528), (69, 49591), (76, 49612), (96, 49726), (104, 49780), (124, 49876), (125, 49879), (141, 49957), (150, 49996), (151, 49999), (154, 50026),

Gene: Quhwah\_87 Start: 49535, Stop: 50194, Start Num: 32

Candidate Starts for Quhwah\_87:

(18, 49451), (Start: 32 @49535 has 40 MA's), (Start: 46 @49580 has 2 MA's), (Start: 47 @49583 has 6 MA's), (49, 49625), (52, 49649), (58, 49682), (69, 49745), (76, 49766), (96, 49880), (104, 49934), (124, 50030), (141, 50111), (150, 50150), (154, 50180),

Gene: RagingRooster\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for RagingRooster\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Ramiel05\_82 Start: 48908, Stop: 49567, Start Num: 32

Candidate Starts for Ramiel05\_82:

(18, 48824), (Start: 32 @48908 has 40 MA's), (Start: 46 @48953 has 2 MA's), (Start: 47 @48956 has 6 MA's), (49, 48998), (52, 49022), (58, 49055), (69, 49118), (76, 49139), (96, 49253), (104, 49307), (124, 49403), (141, 49484), (150, 49523), (154, 49553),

Gene: Rita1961\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Rita1961\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: RobsFeet\_90 Start: 49974, Stop: 50639, Start Num: 32

Candidate Starts for RobsFeet\_90:

(18, 49896), (Start: 32 @49974 has 40 MA's), (Start: 46 @50025 has 2 MA's), (49, 50070), (58, 50127), (76, 50211), (92, 50313), (95, 50322), (97, 50328), (124, 50475), (125, 50478), (141, 50556), (150, 50595), (154, 50625),

Gene: Rockwell\_82 Start: 48932, Stop: 49591, Start Num: 32

Candidate Starts for Rockwell\_82:

(18, 48848), (Start: 32 @48932 has 40 MA's), (Start: 46 @48977 has 2 MA's), (Start: 47 @48980 has 6 MA's), (49, 49022), (52, 49046), (58, 49079), (69, 49142), (76, 49163), (96, 49277), (104, 49331), (124, 49427), (141, 49508), (150, 49547), (154, 49577),

Gene: RomaT\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for RomaT\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Salgado\_5 Start: 3284, Stop: 3907, Start Num: 33

Candidate Starts for Salgado\_5:

(Start: 33 @3284 has 2 MA's), (35, 3287), (Start: 41 @3302 has 9 MA's), (Start: 47 @3332 has 6 MA's), (50, 3383), (60, 3434), (62, 3443), (78, 3533), (80, 3542), (81, 3548), (85, 3575), (113, 3737), (121, 3758), (150, 3890),

Gene: Savannah\_82 Start: 49100, Stop: 49759, Start Num: 32

Candidate Starts for Savannah\_82:

(18, 49016), (Start: 32 @49100 has 40 MA's), (Start: 46 @49145 has 2 MA's), (Start: 47 @49148 has 6 MA's), (49, 49190), (58, 49247), (69, 49310), (76, 49331), (96, 49445), (104, 49499), (124, 49595), (125, 49598), (141, 49676), (150, 49715), (151, 49718), (154, 49745),

Gene: ScoobySnack\_43 Start: 28932, Stop: 29465, Start Num: 42

Candidate Starts for ScoobySnack\_43:

(Start: 42 @28932 has 13 MA's), (Start: 47 @28956 has 6 MA's), (55, 29034), (60, 29058), (61, 29061), (64, 29097), (67, 29121), (79, 29160), (83, 29190), (85, 29199), (88, 29232), (116, 29346),

Gene: Scumberland\_85 Start: 49154, Stop: 49813, Start Num: 32

Candidate Starts for Scumberland\_85:

(18, 49070), (Start: 32 @49154 has 40 MA's), (Start: 46 @49199 has 2 MA's), (Start: 47 @49202 has 6 MA's), (49, 49244), (52, 49268), (58, 49301), (69, 49364), (76, 49385), (96, 49499), (104, 49553), (124, 49649), (125, 49652), (141, 49730), (150, 49769), (151, 49772), (154, 49799),

Gene: Selwyn23\_84 Start: 49039, Stop: 49698, Start Num: 32

Candidate Starts for Selwyn23\_84:

(18, 48955), (Start: 32 @49039 has 40 MA's), (Start: 46 @49084 has 2 MA's), (Start: 47 @49087 has 6 MA's), (49, 49129), (52, 49153), (58, 49186), (69, 49249), (76, 49270), (96, 49384), (124, 49534), (125, 49537), (141, 49615), (150, 49654), (151, 49657), (154, 49684),

Gene: Shade\_69 Start: 44814, Stop: 45389, Start Num: 23

Candidate Starts for Shade\_69:

(Start: 23 @44814 has 22 MA's), (56, 44985), (61, 45003), (76, 45078), (82, 45108), (94, 45183), (98, 45198), (119, 45306), (125, 45327),

Gene: Shatter\_1 Start: 1, Stop: 606, Start Num: 37

Candidate Starts for Shatter\_1:

(Start: 37 @1 has 8 MA's), (50, 85), (55, 112), (60, 136), (64, 175), (91, 349), (114, 472), (133, 553), (142, 592), (143, 595), (145, 601),

Gene: Shenandoah\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Shenandoah\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Shotgun\_82 Start: 48410, Stop: 49069, Start Num: 32

Candidate Starts for Shotgun\_82:

(18, 48326), (Start: 32 @48410 has 40 MA's), (Start: 46 @48455 has 2 MA's), (Start: 47 @48458 has 6 MA's), (49, 48500), (52, 48524), (58, 48557), (69, 48620), (76, 48641), (96, 48755), (104, 48809), (124, 48905), (141, 48986), (150, 49025), (154, 49055),

Gene: Shrooms\_5 Start: 3310, Stop: 3960, Start Num: 27

Candidate Starts for Shrooms\_5:

(5, 3046), (Start: 27 @3310 has 3 MA's), (Start: 41 @3355 has 9 MA's), (Start: 47 @3385 has 6 MA's), (50, 3436), (59, 3484), (60, 3487), (80, 3595), (81, 3601), (125, 3826), (136, 3889),

Gene: Shrubaron\_88 Start: 49564, Stop: 50229, Start Num: 32

Candidate Starts for Shrubaron\_88:

(18, 49486), (Start: 32 @49564 has 40 MA's), (Start: 46 @49615 has 2 MA's), (49, 49660), (58, 49717), (76, 49801), (92, 49903), (95, 49912), (97, 49918), (124, 50065), (125, 50068), (141, 50146), (154, 50215),

Gene: Sicarius2\_71 Start: 43199, Stop: 43729, Start Num: 38

Candidate Starts for Sicarius2\_71:

(Start: 38 @43199 has 2 MA's), (Start: 46 @43235 has 2 MA's), (48, 43244), (61, 43343), (76, 43421), (85, 43469), (108, 43592), (138, 43724),

Gene: SirFrank\_82 Start: 48824, Stop: 49489, Start Num: 32

Candidate Starts for SirFrank\_82:

(Start: 32 @48824 has 40 MA's), (43, 48854), (Start: 46 @48875 has 2 MA's), (49, 48920), (52, 48944), (58, 48977), (69, 49040), (76, 49061), (96, 49175), (124, 49325), (125, 49328), (141, 49406),

Gene: Sisko\_1 Start: 1, Stop: 600, Start Num: 37

Candidate Starts for Sisko\_1:

(Start: 37 @1 has 8 MA's), (Start: 47 @28 has 6 MA's), (50, 79), (57, 118), (85, 295), (142, 586), (143, 589),

Gene: Skugga\_84 Start: 49246, Stop: 49911, Start Num: 30

Candidate Starts for Skugga\_84:

(18, 49168), (Start: 30 @49246 has 3 MA's), (43, 49276), (Start: 46 @49297 has 2 MA's), (Start: 47 @49300 has 6 MA's), (49, 49342), (52, 49366), (58, 49399), (76, 49483), (97, 49600), (124, 49747), (125, 49750), (141, 49828), (142, 49840), (150, 49867), (154, 49897),

Gene: SlippinJimmy\_1 Start: 22, Stop: 693, Start Num: 34

Candidate Starts for SlippinJimmy\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Smarties\_92 Start: 49945, Stop: 50607, Start Num: 32

Candidate Starts for Smarties\_92:

(6, 49708), (18, 49861), (Start: 32 @49945 has 40 MA's), (43, 49972), (Start: 46 @49993 has 2 MA's), (Start: 47 @49996 has 6 MA's), (49, 50038), (52, 50062), (58, 50095), (69, 50158), (76, 50179), (95, 50290), (96, 50293), (124, 50443), (132, 50488), (141, 50524), (142, 50536), (150, 50563), (154, 50593),

Gene: Sonali\_86 Start: 53450, Stop: 54043, Start Num: 39

Candidate Starts for Sonali\_86:

(1, 52859), (2, 52970), (14, 53303), (31, 53429), (Start: 39 @53450 has 2 MA's), (54, 53558), (68, 53642), (129, 53945), (134, 53969),

Gene: Sonny\_69 Start: 44737, Stop: 45312, Start Num: 23

Candidate Starts for Sonny\_69:

(Start: 23 @44737 has 22 MA's), (56, 44908), (61, 44926), (76, 45001), (82, 45031), (94, 45106), (98, 45121), (119, 45229), (125, 45250),

Gene: StevieBAY\_70 Start: 45067, Stop: 45597, Start Num: 23

Candidate Starts for StevieBAY\_70:

(Start: 23 @45067 has 22 MA's), (56, 45193), (61, 45211), (76, 45286), (93, 45388), (98, 45406),

Gene: Sunny\_ Start: 49111, Stop: 49731, Start Num: 46

Candidate Starts for Sunny\_:

(Start: 32 @49063 has 40 MA's), (Start: 46 @49111 has 2 MA's), (49, 49156), (53, 49183), (58, 49213), (69, 49276), (102, 49462), (124, 49561), (125, 49564), (126, 49567), (137, 49627), (141, 49642), (150, 49681), (154, 49711),

Gene: Sunshine23\_89 Start: 53186, Stop: 53779, Start Num: 39

Candidate Starts for Sunshine23\_89:

(14, 53039), (31, 53165), (Start: 39 @53186 has 2 MA's), (48, 53228), (54, 53294), (64, 53348), (68, 53378), (77, 53408), (129, 53681), (134, 53705),

Gene: SwainyDoc\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for SwainyDoc\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: SynergyX\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for SynergyX\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: TaeYoung\_70 Start: 44980, Stop: 45510, Start Num: 23

Candidate Starts for TaeYoung\_70:

(Start: 23 @44980 has 22 MA's), (56, 45106), (61, 45124), (76, 45199), (82, 45229), (94, 45304), (98, 45319), (119, 45427), (125, 45448),

Gene: Teamocil\_88 Start: 49063, Stop: 49728, Start Num: 30

Candidate Starts for Teamocil\_88:

(18, 48985), (Start: 30 @49063 has 3 MA's), (43, 49093), (Start: 46 @49114 has 2 MA's), (Start: 47 @49117 has 6 MA's), (49, 49159), (52, 49183), (58, 49216), (69, 49279), (76, 49300), (97, 49417), (124, 49564), (125, 49567), (141, 49645), (142, 49657), (150, 49684), (154, 49714),

Gene: Timinator\_70 Start: 44887, Stop: 45417, Start Num: 23

Candidate Starts for Timinator\_70:

(Start: 23 @44887 has 22 MA's), (56, 45013), (61, 45031), (93, 45208), (98, 45226),

Gene: TinyTerror\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for TinyTerror\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Tydolla\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Tydolla\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Tyrumbra\_83 Start: 49578, Stop: 50243, Start Num: 32

Candidate Starts for Tyrumbra\_83:

(18, 49500), (Start: 32 @49578 has 40 MA's), (Start: 46 @49629 has 2 MA's), (Start: 47 @49632 has 6 MA's), (49, 49674), (58, 49731), (69, 49794), (76, 49815), (92, 49917), (95, 49926), (97, 49932), (124, 50079), (125, 50082), (126, 50085), (141, 50160), (150, 50199), (154, 50229),

Gene: Violeta\_48 Start: 29234, Stop: 29767, Start Num: 42

Candidate Starts for Violeta\_48:

(19, 29090), (Start: 42 @29234 has 13 MA's), (Start: 47 @29258 has 6 MA's), (55, 29336), (60, 29360), (61, 29363), (64, 29399), (67, 29423), (79, 29462), (83, 29492), (85, 29501), (116, 29648),

Gene: Vitus\_80 Start: 46317, Stop: 46829, Start Num: 36

Candidate Starts for Vitus\_80:

(7, 46197), (9, 46233), (10, 46245), (Start: 36 @46317 has 2 MA's), (61, 46458), (67, 46503), (84, 46578), (123, 46764),

Gene: Waltz\_5 Start: 3398, Stop: 4048, Start Num: 27

Candidate Starts for Waltz\_5:

(Start: 27 @3398 has 3 MA's), (Start: 41 @3443 has 9 MA's), (Start: 47 @3473 has 6 MA's), (50, 3524), (59, 3572), (80, 3683), (81, 3689), (136, 3977),

Gene: Warren\_46 Start: 29178, Stop: 29711, Start Num: 42

Candidate Starts for Warren\_46:

(Start: 42 @29178 has 13 MA's), (Start: 47 @29202 has 6 MA's), (55, 29280), (60, 29304), (61, 29307), (65, 29346), (67, 29367), (79, 29406), (83, 29436), (85, 29445), (116, 29592),

Gene: Wheelbite\_5 Start: 3393, Stop: 3998, Start Num: 41

Candidate Starts for Wheelbite\_5:

(Start: 33 @3375 has 2 MA's), (35, 3378), (Start: 41 @3393 has 9 MA's), (Start: 47 @3423 has 6 MA's), (50, 3474), (62, 3534), (80, 3633), (113, 3828), (121, 3849), (150, 3981),

Gene: Winchester007\_62 Start: 35247, Stop: 35780, Start Num: 42

Candidate Starts for Winchester007\_62:

(Start: 42 @35247 has 13 MA's), (Start: 47 @35271 has 6 MA's), (55, 35349), (60, 35373), (61, 35376), (64, 35412), (67, 35436), (79, 35475), (83, 35505), (85, 35514), (116, 35661),

Gene: Wrackline\_72 Start: 37846, Stop: 38481, Start Num: 44

Candidate Starts for Wrackline\_72:

(40, 37825), (Start: 44 @37846 has 1 MA's), (48, 37867), (50, 37912), (61, 37966), (64, 38002), (66, 38020), (80, 38071), (85, 38104), (90, 38149), (91, 38152), (95, 38164), (99, 38191), (101, 38221), (105, 38230), (107, 38245), (112, 38263), (117, 38308), (120, 38329), (121, 38332), (125, 38347), (131, 38389),

Gene: Wyborn\_70 Start: 43934, Stop: 44464, Start Num: 38

Candidate Starts for Wyborn\_70:

(Start: 38 @43934 has 2 MA's), (Start: 46 @43970 has 2 MA's), (48, 43979), (61, 44078), (76, 44156), (85, 44204), (108, 44327), (138, 44459),

Gene: Yago84\_1 Start: 1, Stop: 600, Start Num: 37

Candidate Starts for Yago84\_1:

(Start: 37 @1 has 8 MA's), (Start: 47 @28 has 6 MA's), (50, 79), (57, 118), (85, 295), (113, 463), (142, 586), (143, 589),

Gene: Yahalom\_1 Start: 73, Stop: 693, Start Num: 47

Candidate Starts for Yahalom\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Yeti\_84 Start: 48436, Stop: 49095, Start Num: 32

Candidate Starts for Yeti\_84:

(18, 48352), (Start: 32 @48436 has 40 MA's), (Start: 46 @48481 has 2 MA's), (Start: 47 @48484 has 6 MA's), (49, 48526), (52, 48550), (58, 48583), (69, 48646), (76, 48667), (96, 48781), (104, 48835), (124, 48931), (127, 48940), (141, 49012), (154, 49081),

Gene: Yinz\_1 Start: 1, Stop: 693, Start Num: 29

Candidate Starts for Yinz\_1:

(Start: 29 @1 has 43 MA's), (Start: 34 @22 has 2 MA's), (45, 64), (Start: 47 @73 has 6 MA's), (55, 151), (60, 175), (64, 214), (71, 253), (80, 307), (81, 313), (85, 340), (109, 478), (120, 541),

Gene: Zapato\_83 Start: 48903, Stop: 49568, Start Num: 30

Candidate Starts for Zapato\_83:

(18, 48825), (Start: 30 @48903 has 3 MA's), (43, 48933), (Start: 46 @48954 has 2 MA's), (48, 48963), (52, 49023), (58, 49056), (69, 49119), (74, 49125), (76, 49140), (95, 49251), (97, 49257), (124, 49404), (125, 49407), (141, 49485), (150, 49524), (154, 49554),

Gene: Zartrosa\_71 Start: 45067, Stop: 45642, Start Num: 23

Candidate Starts for Zartrosa\_71:

(Start: 23 @45067 has 22 MA's), (56, 45238), (61, 45256), (76, 45331), (82, 45361), (94, 45436), (98, 45451), (119, 45559), (125, 45580),