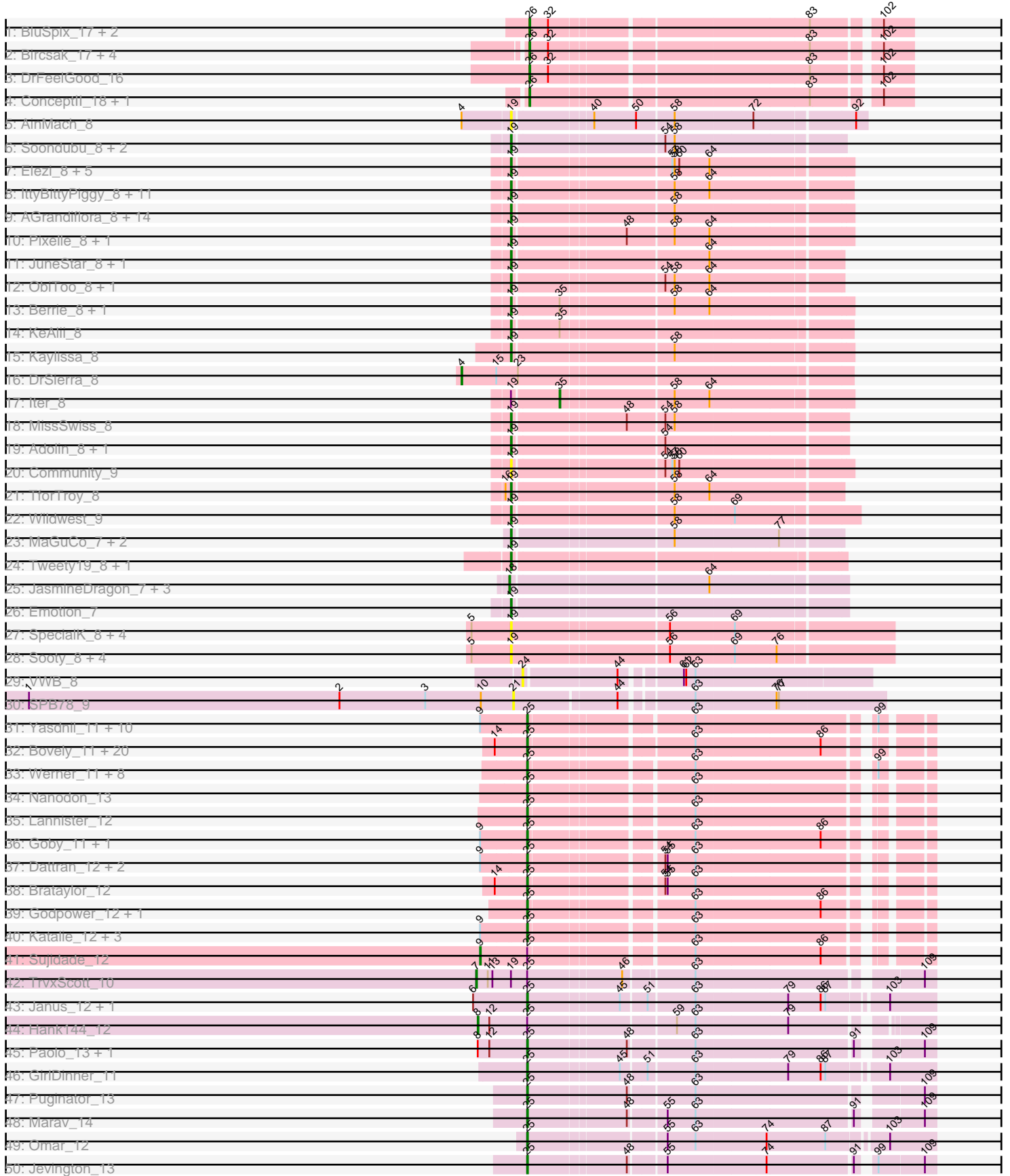
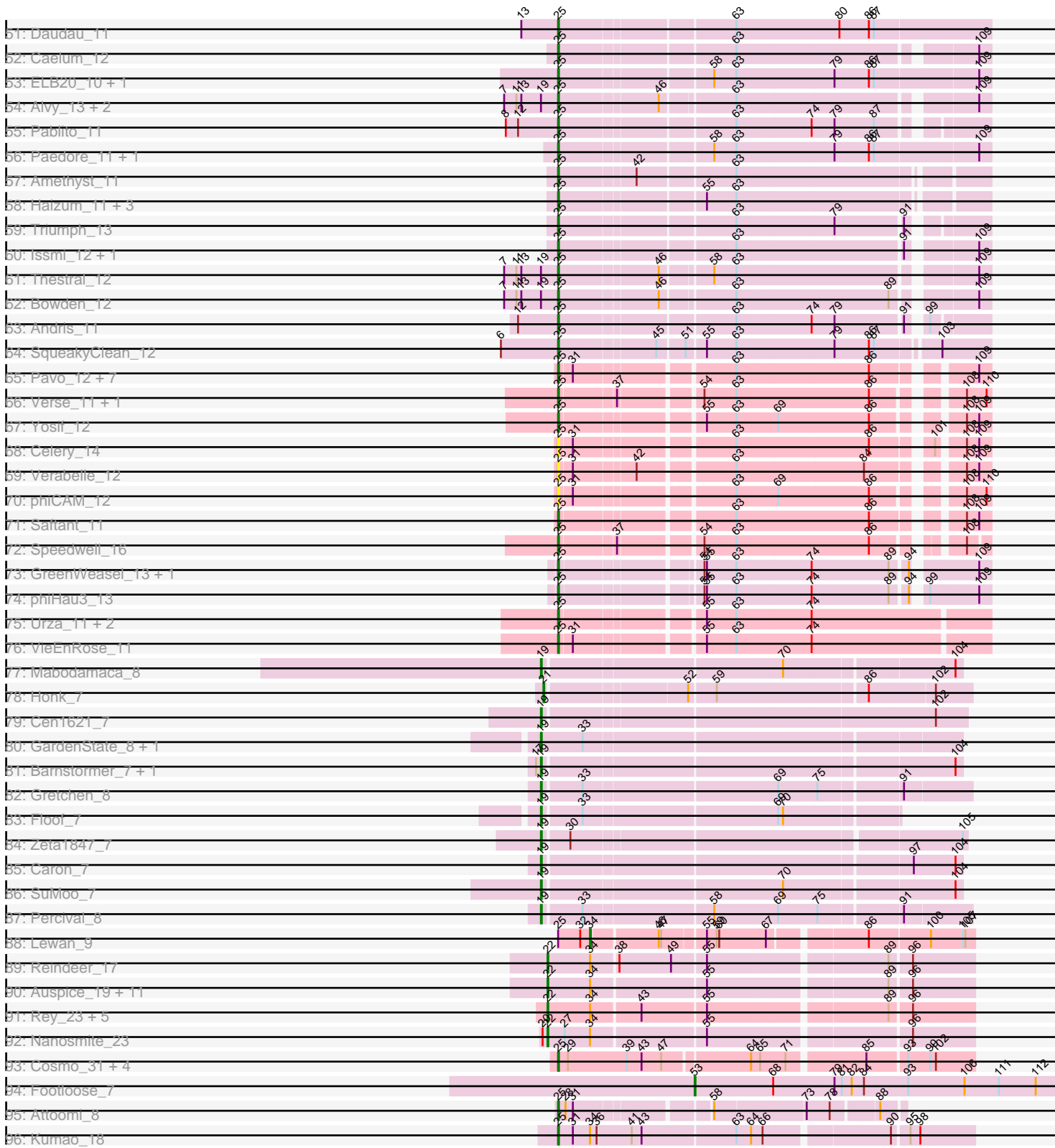


Pham 196270



Pham 196270



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 196270 Report

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

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 196270 has 242 members, 30 are drafts.

Phages represented in each track:

- Track 1 : BluSpix\_17, Graduation\_19, IgnatiusPatJac\_16
- Track 2 : Bircsak\_17, Tripl3t\_18, Gompeii16\_17, StrongArm\_16, Bexan\_16
- Track 3 : DrFeelGood\_16
- Track 4 : Conceptll\_18, PacerPaul\_17
- Track 5 : AinMach\_8
- Track 6 : Soondubu\_8, DrManhattan\_8, Exile\_8
- Track 7 : Elezi\_8, London\_8, Eraser\_8, Niobe\_8, Asa16\_8, Jstan\_8
- Track 8 : IttyBittyPiggy\_8, Janeemi\_9, Adumb2043\_8, Yang\_8, Amyev\_8, Tian\_8, AEgle\_8, Nitro\_8, Turab\_8, Cassia\_8, Lizalica\_8, Pumpkins\_8
- Track 9 : AGrandiflora\_8, Cyan\_8, YesChef\_8, Tallboi\_8, Tbone\_8, VResidence\_8, JohnDoe\_8, Tutumahutu\_8, Mudpuppy\_8, Simpson\_8, Warda\_8, Lego\_8, Tuck\_9, Powerpuff\_8, Joemato\_8
- Track 10 : Pixelle\_8, Phives\_9
- Track 11 : JuneStar\_8, Sue2\_8
- Track 12 : ObiToo\_8, Crewmate\_9
- Track 13 : Berrie\_8, Ascela\_8
- Track 14 : KeAlii\_8
- Track 15 : Kaylissa\_8
- Track 16 : DrSierra\_8
- Track 17 : lter\_8
- Track 18 : MissSwiss\_8
- Track 19 : Adolin\_8, Reedo\_8
- Track 20 : Community\_9
- Track 21 : TforTroy\_8
- Track 22 : Wildwest\_9
- Track 23 : MaGuCo\_7, Liebe\_7, Maureen\_7
- Track 24 : Tweety19\_8, Snek\_8
- Track 25 : JasmineDragon\_7, ShakeltOph\_7, MiniMommy\_7, VroomVroom\_7
- Track 26 : Emotion\_7
- Track 27 : SpecialK\_8, Moss\_8, Mysterium\_8, Halsey\_8, Ashes\_9
- Track 28 : Sooty\_8, Cappuccino\_8, Gambol\_8, Donkey\_8, Kalimba\_8
- Track 29 : VWB\_8
- Track 30 : SPB78\_9

- Track 31 : Yasdni1\_11, Nabi\_11, OzzyJ\_12, Lorelei\_11, Rana\_11, TuanPN\_11, Dwayne\_11, Maneekul\_11, Triste\_11, Ejemplo\_11, Asten\_11
- Track 32 : Bovely\_11, Esperer\_11, Indigo\_11, BryanRecycles\_12, Oliynyk\_12, Rusticus\_12, Eddasa\_12, Ozzie\_11, Caliburn\_11, Nerdos\_11, SunsetPointe\_11, Hydra\_13, Aaronocolus\_11, Leviticus\_11, Unstoppable\_11, EnochSoames\_12, BeardedLady\_12, Legacy\_11, Phettuccine\_11, Izzy\_12, Jash\_12
- Track 33 : Werner\_11, Chucky\_11, Hippo\_11, Snorlax\_11, SarahRose\_11, BarryBee\_13, Emaanora\_13, Whatever\_11, TagePhighter\_12
- Track 34 : Nanodon\_13
- Track 35 : Lannister\_12
- Track 36 : Goby\_11, Toma\_11
- Track 37 : Dattran\_12, Zemlya\_12, Celeste\_11
- Track 38 : Brataylor\_12
- Track 39 : Godpower\_12, Lika\_11
- Track 40 : Katalie\_12, RedBear\_13, South40\_12, Danzina\_12
- Track 41 : Sujidade\_12
- Track 42 : TrvxScott\_10
- Track 43 : Janus\_12, Animus\_12
- Track 44 : Hank144\_12
- Track 45 : Paolo\_13, Zainub\_13
- Track 46 : GirlDinner\_11
- Track 47 : Puginator\_13
- Track 48 : Marav\_14
- Track 49 : Omar\_12
- Track 50 : Jevington\_13
- Track 51 : Daudau\_11
- Track 52 : Caelum\_12
- Track 53 : ELB20\_10, R4\_11
- Track 54 : Alvy\_13, BartholomewSD\_13, TinaBelcher\_11
- Track 55 : Pablito\_11
- Track 56 : Paedore\_11, Loofah\_12
- Track 57 : Amethyst\_11
- Track 58 : Haizum\_11, Tefunt\_11, Nishikigoi\_11, Diane\_11
- Track 59 : Triumph\_13
- Track 60 : Issmi\_12, Superstar\_13
- Track 61 : Thestral\_12
- Track 62 : Bowden\_12
- Track 63 : Andris\_11
- Track 64 : SqueakyClean\_12
- Track 65 : Pavo\_12, Conan\_12, Dexers\_10, Kaine\_11, ElGato\_12, Provolone\_12, Alsaber\_12, Vanseggelen\_14
- Track 66 : Verse\_11, Amela\_11
- Track 67 : Yosif\_12
- Track 68 : Celery\_14
- Track 69 : Verabelle\_12
- Track 70 : phiCAM\_12
- Track 71 : Saftant\_11
- Track 72 : Speedwell\_16
- Track 73 : GreenWeasel\_13, BroPlease\_12
- Track 74 : phiHau3\_13
- Track 75 : Urza\_11, Celia\_11, Itza\_11
- Track 76 : VieEnRose\_11
- Track 77 : Mabodamaca\_8

- Track 78 : Honk\_7
- Track 79 : Cen1621\_7
- Track 80 : GardenState\_8, IAmGroot\_8
- Track 81 : Barnstormer\_7, UtzChips\_7
- Track 82 : Gretchen\_8
- Track 83 : Floof\_7
- Track 84 : Zeta1847\_7
- Track 85 : Caron\_7
- Track 86 : SuMoo\_7
- Track 87 : Percival\_8
- Track 88 : Lewan\_9
- Track 89 : Reindeer\_17
- Track 90 : Auspice\_19, Bricole\_19, IPhane7\_19, Skinny\_20, Glaske16\_20, Diminimus\_20, PegLeg\_19, LilhomieP\_18, TyDawg\_19, Bongo\_19, SlimJimmy\_18, Dulcita\_20
- Track 91 : Rey\_23, GenevaB15\_23, GardenSalsa\_23, Aziz\_23, MrMagoo\_23, Estes\_24
- Track 92 : Nanosmite\_23
- Track 93 : Cosmo\_31, MaryV\_31, EniyanLRS\_28, Azrael100\_30, Wildcat\_31
- Track 94 : Footloose\_7
- Track 95 : Attoomi\_8
- Track 96 : Kumao\_18

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

The start number called the most often in the published annotations is 25, it was called in 110 of the 212 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aaronocolus\_11, Alsaber\_12, Alvy\_13, Amela\_11, Amethyst\_11, Andris\_11, Animus\_12, Asten\_11, Attoomi\_8, Azrael100\_30, BarryBee\_13, BartholomewSD\_13, BeardedLady\_12, Bovely\_11, Bowden\_12, Brataylor\_12, BroPlease\_12, BryanRecycles\_12, Caelum\_12, Caliburn\_11, Celery\_14, Celeste\_11, Celia\_11, Chucky\_11, Conan\_12, Cosmo\_31, Danzina\_12, Dattran\_12, Daudau\_11, Dexers\_10, Diane\_11, Dwayne\_11, ELB20\_10, Eddasa\_12, Ejemplo\_11, ElGato\_12, Emaanora\_13, EniyanLRS\_28, EnochSoames\_12, Esperer\_11, GirlDinner\_11, Goby\_11, Godpower\_12, GreenWeasel\_13, Haizum\_11, Hippo\_11, Hydra\_13, Indigo\_11, Issmi\_12, Itza\_11, Izzy\_12, Janus\_12, Jash\_12, Jevington\_13, Kaine\_11, Katalie\_12, Kumao\_18, Lannister\_12, Legacy\_11, Leviticus\_11, Lika\_11, Loofah\_12, Lorelei\_11, Maneekul\_11, Marav\_14, MaryV\_31, Nabi\_11, Nanodon\_13, Nerds\_11, Nishikigoi\_11, Oliynyk\_12, Omar\_12, Ozzie\_11, OzzyJ\_12, Pablito\_11, Paedore\_11, Paolo\_13, Pavo\_12, Phettuccine\_11, Provolone\_12, Puginator\_13, R4\_11, Rana\_11, RedBear\_13, Rusticus\_12, Saftant\_11, SarahRose\_11, Snorlax\_11, South40\_12, Speedwell\_16, SqueakyClean\_12, SunsetPointe\_11, Superstar\_13, TAgePghter\_12, Tefunt\_11, Thestral\_12, TinaBelcher\_11, Toma\_11, Triste\_11, Triumph\_13, TuanPN\_11, Unstoppable\_11, Urza\_11, Vanseggelen\_14, Verabelle\_12, Verse\_11, VieEnRose\_11, Werner\_11, Whatever\_11, Wildcat\_31, Yasdnil\_11, Yosif\_12, Zainub\_13, Zemlya\_12, phiCAM\_12, phiHau3\_13,

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

- Hank144\_12, Lewan\_9, Sujidade\_12, TrvxScott\_10,

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

- AEgle\_8, AGrandiflora\_8, Adolin\_8, Adumb2043\_8, AinMach\_8, Amyev\_8, Asa16\_8, Ascela\_8, Ashes\_9, Auspice\_19, Aziz\_23, Barnstormer\_7, Berrie\_8, Bexan\_16, Bircsak\_17, BluSpix\_17, Bongo\_19, Bricole\_19, Cappuccino\_8, Caron\_7, Cassia\_8, Cen1621\_7, Community\_9, ConceptII\_18, Crewmate\_9, Cyan\_8, Diminimus\_20, Donkey\_8, DrFeelGood\_16, DrManhattan\_8, DrSierra\_8, Dulcita\_20, Elezi\_8, Emotion\_7, Eraser\_8, Estes\_24, Exile\_8, Floof\_7, Footloose\_7, Gambol\_8, GardenSalsa\_23, GardenState\_8, GenevaB15\_23, Glaske16\_20, Gompeii16\_17, Graduation\_19, Gretchen\_8, Halsey\_8, Honk\_7, IAmGroot\_8, IPhone7\_19, IgnatiusPatJac\_16, Iter\_8, IttyBittyPiggy\_8, Janeemi\_9, JasmineDragon\_7, Joemato\_8, JohnDoe\_8, Jstan\_8, JuneStar\_8, Kalimba\_8, Kaylissa\_8, KeAlii\_8, Lego\_8, Liebe\_7, LilhomieP\_18, Lizalica\_8, London\_8, MaGuCo\_7, Mabodamaca\_8, Maureen\_7, MiniMommy\_7, MissSwiss\_8, Moss\_8, MrMagoo\_23, Mudpuppy\_8, Mysterium\_8, Nanosmite\_23, Niobe\_8, Nitro\_8, ObiToo\_8, PacerPaul\_17, PegLeg\_19, Percival\_8, Phives\_9, Pixelle\_8, Powerpuff\_8, Pumpkins\_8, Reedo\_8, Reindeer\_17, Rey\_23, SPB78\_9, ShakeltOph\_7, Simpson\_8, Skinny\_20, SlimJimmy\_18, Snek\_8, Soondubu\_8, Sooty\_8, SpecialK\_8, StrongArm\_16, SuMoo\_7, Sue2\_8, Tallboi\_8, Tbone\_8, TforTroy\_8, Tian\_8, Tripl3t\_18, Tuck\_9, Turab\_8, Tutumahutu\_8, Tweety19\_8, TyDawg\_19, UtzChips\_7, VResidence\_8, VWB\_8, VroomVroom\_7, Warda\_8, Wildwest\_9, Yang\_8, YesChef\_8, Zeta1847\_7,

### Summary by start number:

Start 4:

- Found in 2 of 242 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DrSierra\_8 (AZ1),

Start 7:

- Found in 6 of 242 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 16.7% of time when present
- Phage (with cluster) where this start called: TrvxScott\_10 (BD2),

Start 8:

- Found in 4 of 242 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Hank144\_12 (BD2),

Start 9:

- Found in 21 of 242 ( 8.7% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 4.8% of time when present
- Phage (with cluster) where this start called: Sujidade\_12 (BD1),

Start 18:

- Found in 4 of 242 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 2 of 212
- Called 100.0% of time when present

- Phage (with cluster) where this start called: JasmineDragon\_7 (AZ4), MiniMommy\_7 (AZ4), ShakeltOph\_7 (AZ4), VroomVroom\_7 (AZ4),

#### Start 19:

- Found in 88 of 242 ( 36.4% ) of genes in pham
- Manual Annotations of this start: 61 of 212
- Called 92.0% of time when present
- Phage (with cluster) where this start called: AEgle\_8 (AZ1), AGrandiflora\_8 (AZ1), Adolin\_8 (AZ1), Adumb2043\_8 (AZ1), AinMach\_8 (AZ), Amyev\_8 (AZ1), Asa16\_8 (AZ1), Ascela\_8 (AZ1), Ashes\_9 (AZ5), Barnstormer\_7 (EH), Berrie\_8 (AZ1), Cappuccino\_8 (AZ5), Caron\_7 (EH), Cassia\_8 (AZ1), Cen1621\_7 (EH), Community\_9 (AZ1), Crewmate\_9 (AZ1), Cyan\_8 (AZ1), Donkey\_8 (AZ5), DrManhattan\_8 (AZ1), Elezi\_8 (AZ1), Emotion\_7 (AZ4), Eraser\_8 (AZ1), Exile\_8 (AZ), Floof\_7 (EH), Gambol\_8 (AZ5), GardenState\_8 (EH), Gretchen\_8 (EH), Halsey\_8 (AZ5), IAmGroot\_8 (EH), IttyBittyPiggy\_8 (AZ1), Janeemi\_9 (AZ1), Joemato\_8 (AZ1), JohnDoe\_8 (AZ1), Jstan\_8 (AZ1), JuneStar\_8 (AZ1), Kalimba\_8 (AZ5), Kaylissa\_8 (AZ1), KeAlii\_8 (AZ1), Lego\_8 (AZ1), Liebe\_7 (AZ2), Lizalica\_8 (AZ1), London\_8 (AZ1), MaGuCo\_7 (AZ2), Mabodamaca\_8 (EH), Maureen\_7 (AZ2), MissSwiss\_8 (AZ1), Moss\_8 (AZ5), Mudpuppy\_8 (AZ1), Mysterium\_8 (AZ5), Niobe\_8 (AZ1), Nitro\_8 (AZ1), ObiToo\_8 (AZ1), Percival\_8 (EH), Phives\_9 (AZ1), Pixelle\_8 (AZ1), Powerpuff\_8 (AZ1), Pumpkins\_8 (AZ1), Reedo\_8 (AZ1), Simpson\_8 (AZ1), Snek\_8 (AZ3), Soondubu\_8 (AZ), Sooty\_8 (AZ5), SpecialK\_8 (AZ5), SuMoo\_7 (EH), Sue2\_8 (AZ1), Tallboi\_8 (AZ1), Tbone\_8 (AZ1), TforTroy\_8 (AZ1), Tian\_8 (AZ1), Tuck\_9 (AZ1), Turab\_8 (AZ1), Tutumahutu\_8 (AZ1), Tweety19\_8 (AZ3), UtzChips\_7 (EH), VResidence\_8 (AZ1), Warda\_8 (AZ1), Wildwest\_9 (AZ1), Yang\_8 (AZ1), YesChef\_8 (AZ1), Zeta1847\_7 (EH),

#### Start 21:

- Found in 2 of 242 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Honk\_7 (EH), SPB78\_9 (BA),

#### Start 22:

- Found in 20 of 242 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 20 of 212
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Auspice\_19 (M1), Aziz\_23 (M2), Bongo\_19 (M1), Bricole\_19 (M1), Diminimus\_20 (M1), Dulcita\_20 (M1), Estes\_24 (M2), GardenSalsa\_23 (M2), GenevaB15\_23 (M2), Glaske16\_20 (M1), IPhone7\_19 (M1), LilhomieP\_18 (M1), MrMagoo\_23 (M2), Nanosmite\_23 (M3), PegLeg\_19 (M1), Reindeer\_17 (M1), Rey\_23 (M2), Skinny\_20 (M1), SlimJimmy\_18 (M1), TyDawg\_19 (M1),

#### Start 24:

- Found in 1 of 242 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: VWB\_8 (BA),

#### Start 25:

- Found in 120 of 242 ( 49.6% ) of genes in pham
- Manual Annotations of this start: 110 of 212

- Called 96.7% of time when present
- Phage (with cluster) where this start called: Aaronocolus\_11 (BD1), Alsaber\_12 (BD3), Alvy\_13 (BD2), Amela\_11 (BD3), Amethyst\_11 (BD2), Andris\_11 (BD2), Animus\_12 (BD2), Asten\_11 (BD1), Attoomi\_8 (singleton), Azrael100\_30 (V), BarryBee\_13 (BD1), BartholomewSD\_13 (BD2), BeardedLady\_12 (BD1), Bovely\_11 (BD1), Bowden\_12 (BD2), Brataylor\_12 (BD1), BroPlease\_12 (BD4), BryanRecycles\_12 (BD1), Caelum\_12 (BD2), Caliburn\_11 (BD1), Celery\_14 (BD3), Celeste\_11 (BD1), Celia\_11 (BD6), Chucky\_11 (BD1), Conan\_12 (BD3), Cosmo\_31 (V), Danzina\_12 (BD1), Dattran\_12 (BD1), Daudau\_11 (BD2), Dexers\_10 (BD3), Diane\_11 (BD2), Dwayne\_11 (BD1), ELB20\_10 (BD2), Eddasa\_12 (BD1), Ejemplo\_11 (BD1), ElGato\_12 (BD3), Emaanora\_13 (BD1), EniyanLRS\_28 (V), EnochSoames\_12 (BD1), Esperer\_11 (BD1), GirlDinner\_11 (BD2), Goby\_11 (BD1), Godpower\_12 (BD1), GreenWeasel\_13 (BD4), Haizum\_11 (BD2), Hippo\_11 (BD1), Hydra\_13 (BD1), Indigo\_11 (BD1), Issmi\_12 (BD2), Itza\_11 (BD6), Izzy\_12 (BD1), Janus\_12 (BD2), Jash\_12 (BD1), Jevington\_13 (BD2), Kaine\_11 (BD3), Katalie\_12 (BD1), Kumao\_18 (singleton), Lannister\_12 (BD1), Legacy\_11 (BD1), Leviticus\_11 (BD1), Lika\_11 (BD1), Loofah\_12 (BD2), Lorelei\_11 (BD1), Maneekul\_11 (BD1), Marav\_14 (BD2), MaryV\_31 (V), Nabi\_11 (BD1), Nanodon\_13 (BD1), Nerdos\_11 (BD1), Nishikigoi\_11 (BD2), Oliynyk\_12 (BD1), Omar\_12 (BD2), Ozzie\_11 (BD1), OzzyJ\_12 (BD1), Pablito\_11 (BD2), Paedore\_11 (BD2), Paolo\_13 (BD2), Pavo\_12 (BD3), Phettuccine\_11 (BD1), Provolone\_12 (BD3), Puginator\_13 (BD2), R4\_11 (BD2), Rana\_11 (BD1), RedBear\_13 (BD1), Rusticus\_12 (BD1), Saftant\_11 (BD3), SarahRose\_11 (BD1), Snorlax\_11 (BD1), South40\_12 (BD1), Speedwell\_16 (BD3), SqueakyClean\_12 (BD2), SunsetPointe\_11 (BD1), Superstar\_13 (BD2), TagePhighter\_12 (BD1), Tefunt\_11 (BD2), Thestral\_12 (BD2), TinaBelcher\_11 (BD2), Toma\_11 (BD1), Triste\_11 (BD1), Triumph\_13 (BD2), TuanPN\_11 (BD1), Unstoppable\_11 (BD1), Urza\_11 (BD6), Vanseggelen\_14 (BD3), Verabelle\_12 (BD3), Verse\_11 (BD3), VieEnRose\_11 (BD6), Werner\_11 (BD1), Whatever\_11 (BD1), Wildcat\_31 (V), Yasdnil\_11 (BD1), Yosif\_12 (BD3), Zainub\_13 (BD2), Zemlya\_12 (BD1), phiCAM\_12 (BD3), phiHau3\_13 (BD4),

#### Start 26:

- Found in 11 of 242 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 11 of 212
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bexan\_16 (A1), Bircsak\_17 (A1), BluSpix\_17 (A1), ConceptII\_18 (A1), DrFeelGood\_16 (A1), Gompeii16\_17 (A1), Graduation\_19 (A1), IgnatiusPatJac\_16 (A1), PacerPaul\_17 (A1), StrongArm\_16 (A1), Tripl3t\_18 (A1),

#### Start 34:

- Found in 22 of 242 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 4.5% of time when present
- Phage (with cluster) where this start called: Lewan\_9 (L2),

#### Start 35:

- Found in 4 of 242 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Iter\_8 (AZ1),

#### Start 53:



- Found in 1 of 242 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 212
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Footloose\_7 (singleton),

### **Summary by clusters:**

There are 20 clusters represented in this pham: singleton, AZ3, EH, V, L2, BD2, A1, BD4, M1, BD6, BD1, BD3, M2, AZ1, AZ2, AZ, AZ4, AZ5, M3, BA,

Info for manual annotations of cluster A1:

- Start number 26 was manually annotated 11 times for cluster A1.

Info for manual annotations of cluster AZ:

- Start number 19 was manually annotated 1 time for cluster AZ.

Info for manual annotations of cluster AZ1:

- Start number 4 was manually annotated 1 time for cluster AZ1.
- Start number 19 was manually annotated 42 times for cluster AZ1.
- Start number 35 was manually annotated 1 time for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 19 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 19 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 18 was manually annotated 2 times for cluster AZ4.
- Start number 19 was manually annotated 1 time for cluster AZ4.

Info for manual annotations of cluster BD1:

- Start number 9 was manually annotated 1 time for cluster BD1.
- Start number 25 was manually annotated 54 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 7 was manually annotated 1 time for cluster BD2.
- Start number 8 was manually annotated 1 time for cluster BD2.
- Start number 25 was manually annotated 30 times for cluster BD2.

Info for manual annotations of cluster BD3:

- Start number 25 was manually annotated 12 times for cluster BD3.

Info for manual annotations of cluster BD4:

- Start number 25 was manually annotated 3 times for cluster BD4.

Info for manual annotations of cluster BD6:

- Start number 25 was manually annotated 4 times for cluster BD6.

Info for manual annotations of cluster EH:

- Start number 19 was manually annotated 12 times for cluster EH.

- Start number 21 was manually annotated 1 time for cluster EH.

Info for manual annotations of cluster L2:

- Start number 34 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster M1:

- Start number 22 was manually annotated 13 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 22 was manually annotated 6 times for cluster M2.

Info for manual annotations of cluster M3:

- Start number 22 was manually annotated 1 time for cluster M3.

Info for manual annotations of cluster V:

- Start number 25 was manually annotated 5 times for cluster V.

### **Gene Information:**

Gene: AEgle\_8 Start: 7858, Stop: 8265, Start Num: 19

Candidate Starts for AEgle\_8:

(Start: 19 @7858 has 61 MA's), (58, 8050), (64, 8095),

Gene: AGrandiflora\_8 Start: 7839, Stop: 8246, Start Num: 19

Candidate Starts for AGrandiflora\_8:

(Start: 19 @7839 has 61 MA's), (58, 8031),

Gene: Aaronocolus\_11 Start: 8395, Stop: 8847, Start Num: 25

Candidate Starts for Aaronocolus\_11:

(14, 8356), (Start: 25 @8395 has 110 MA's), (63, 8587), (86, 8743),

Gene: Adolin\_8 Start: 7854, Stop: 8258, Start Num: 19

Candidate Starts for Adolin\_8:

(Start: 19 @7854 has 61 MA's), (54, 8034),

Gene: Adumb2043\_8 Start: 7857, Stop: 8264, Start Num: 19

Candidate Starts for Adumb2043\_8:

(Start: 19 @7857 has 61 MA's), (58, 8049), (64, 8094),

Gene: AinMach\_8 Start: 7070, Stop: 7495, Start Num: 19

Candidate Starts for AinMach\_8:

(Start: 4 @7010 has 1 MA's), (Start: 19 @7070 has 61 MA's), (40, 7163), (50, 7217), (58, 7262), (72, 7361), (92, 7481),

Gene: Alsaber\_12 Start: 8454, Stop: 8915, Start Num: 25

Candidate Starts for Alsaber\_12:

(Start: 25 @8454 has 110 MA's), (31, 8469), (63, 8643), (86, 8799), (109, 8901),

Gene: Alvy\_13 Start: 8321, Stop: 8794, Start Num: 25

Candidate Starts for Alvy\_13:

(Start: 7 @8255 has 1 MA's), (11, 8270), (13, 8276), (Start: 19 @8300 has 61 MA's), (Start: 25 @8321 has 110 MA's), (46, 8435), (63, 8516), (109, 8780),

Gene: Amela\_11 Start: 8566, Stop: 9024, Start Num: 25

Candidate Starts for Amela\_11:

(Start: 25 @8566 has 110 MA's), (37, 8629), (54, 8716), (63, 8755), (86, 8911), (108, 8995), (110, 9019),

Gene: Amethyst\_11 Start: 8131, Stop: 8607, Start Num: 25

Candidate Starts for Amethyst\_11:

(Start: 25 @8131 has 110 MA's), (42, 8218), (63, 8329),

Gene: Amyev\_8 Start: 7873, Stop: 8280, Start Num: 19

Candidate Starts for Amyev\_8:

(Start: 19 @7873 has 61 MA's), (58, 8065), (64, 8110),

Gene: Andris\_11 Start: 8194, Stop: 8664, Start Num: 25

Candidate Starts for Andris\_11:

(12, 8146), (Start: 25 @8194 has 110 MA's), (63, 8392), (74, 8479), (79, 8506), (91, 8584), (99, 8599),

Gene: Animus\_12 Start: 8547, Stop: 9035, Start Num: 25

Candidate Starts for Animus\_12:

(6, 8478), (Start: 25 @8547 has 110 MA's), (45, 8658), (51, 8688), (63, 8745), (79, 8859), (86, 8901), (87, 8907), (103, 8976),

Gene: Asa16\_8 Start: 7826, Stop: 8233, Start Num: 19

Candidate Starts for Asa16\_8:

(Start: 19 @7826 has 61 MA's), (57, 8015), (58, 8018), (60, 8024), (64, 8063),

Gene: Ascela\_8 Start: 7852, Stop: 8259, Start Num: 19

Candidate Starts for Ascela\_8:

(Start: 19 @7852 has 61 MA's), (Start: 35 @7909 has 1 MA's), (58, 8044), (64, 8089),

Gene: Ashes\_9 Start: 7343, Stop: 7810, Start Num: 19

Candidate Starts for Ashes\_9:

(5, 7292), (Start: 19 @7343 has 61 MA's), (56, 7535), (69, 7616),

Gene: Asten\_11 Start: 8357, Stop: 8806, Start Num: 25

Candidate Starts for Asten\_11:

(Start: 9 @8300 has 1 MA's), (Start: 25 @8357 has 110 MA's), (63, 8546), (99, 8750),

Gene: Attoomi\_8 Start: 6589, Stop: 6960, Start Num: 25

Candidate Starts for Attoomi\_8:

(Start: 25 @6589 has 110 MA's), (28, 6598), (31, 6607), (58, 6751), (73, 6856), (78, 6883), (88, 6934),

Gene: Auspice\_19 Start: 11031, Stop: 11513, Start Num: 22

Candidate Starts for Auspice\_19:

(Start: 22 @11031 has 20 MA's), (Start: 34 @11082 has 1 MA's), (55, 11211), (89, 11415), (96, 11439),

Gene: Aziz\_23 Start: 11594, Stop: 12076, Start Num: 22

Candidate Starts for Aziz\_23:

(Start: 22 @11594 has 20 MA's), (Start: 34 @11645 has 1 MA's), (43, 11699), (55, 11774), (89, 11978), (96, 12002),

Gene: Azrael100\_30 Start: 14162, Stop: 14638, Start Num: 25

Candidate Starts for Azrael100\_30:

(Start: 25 @14162 has 110 MA's), (29, 14174), (39, 14246), (43, 14264), (47, 14288), (64, 14387), (65, 14396), (71, 14426), (85, 14513), (93, 14558), (99, 14585), (102, 14591),

Gene: Barnstormer\_7 Start: 7106, Stop: 7585, Start Num: 19

Candidate Starts for Barnstormer\_7:

(17, 7100), (Start: 19 @7106 has 61 MA's), (104, 7577),

Gene: BarryBee\_13 Start: 8364, Stop: 8813, Start Num: 25

Candidate Starts for BarryBee\_13:

(Start: 25 @8364 has 110 MA's), (63, 8553), (99, 8757),

Gene: BartholomewSD\_13 Start: 8321, Stop: 8794, Start Num: 25

Candidate Starts for BartholomewSD\_13:

(Start: 7 @8255 has 1 MA's), (11, 8270), (13, 8276), (Start: 19 @8300 has 61 MA's), (Start: 25 @8321 has 110 MA's), (46, 8435), (63, 8516), (109, 8780),

Gene: BeardedLady\_12 Start: 8642, Stop: 9094, Start Num: 25

Candidate Starts for BeardedLady\_12:

(14, 8603), (Start: 25 @8642 has 110 MA's), (63, 8834), (86, 8990),

Gene: Berrie\_8 Start: 7831, Stop: 8238, Start Num: 19

Candidate Starts for Berrie\_8:

(Start: 19 @7831 has 61 MA's), (Start: 35 @7888 has 1 MA's), (58, 8023), (64, 8068),

Gene: Bexan\_16 Start: 13900, Stop: 14349, Start Num: 26

Candidate Starts for Bexan\_16:

(Start: 26 @13900 has 11 MA's), (32, 13924), (83, 14236), (102, 14311),

Gene: Bircsak\_17 Start: 13409, Stop: 13858, Start Num: 26

Candidate Starts for Bircsak\_17:

(Start: 26 @13409 has 11 MA's), (32, 13433), (83, 13745), (102, 13820),

Gene: BluSpix\_17 Start: 12911, Stop: 13360, Start Num: 26

Candidate Starts for BluSpix\_17:

(Start: 26 @12911 has 11 MA's), (32, 12935), (83, 13247), (102, 13322),

Gene: Bongo\_19 Start: 11031, Stop: 11513, Start Num: 22

Candidate Starts for Bongo\_19:

(Start: 22 @11031 has 20 MA's), (Start: 34 @11082 has 1 MA's), (55, 11211), (89, 11415), (96, 11439),

Gene: Bovely\_11 Start: 8401, Stop: 8853, Start Num: 25

Candidate Starts for Bovely\_11:

(14, 8362), (Start: 25 @8401 has 110 MA's), (63, 8593), (86, 8749),

Gene: Bowden\_12 Start: 8235, Stop: 8708, Start Num: 25

Candidate Starts for Bowden\_12:

(Start: 7 @8169 has 1 MA's), (11, 8184), (13, 8190), (Start: 19 @8214 has 61 MA's), (Start: 25 @8235 has 110 MA's), (46, 8349), (63, 8430), (89, 8610), (109, 8694),

Gene: Brataylor\_12 Start: 8367, Stop: 8816, Start Num: 25

Candidate Starts for Brataylor\_12:

(14, 8328), (Start: 25 @8367 has 110 MA's), (54, 8517), (55, 8520), (63, 8556),

Gene: Bricole\_19 Start: 11030, Stop: 11512, Start Num: 22

Candidate Starts for Bricole\_19:

(Start: 22 @11030 has 20 MA's), (Start: 34 @11081 has 1 MA's), (55, 11210), (89, 11414), (96, 11438),

Gene: BroPlease\_12 Start: 8450, Stop: 8917, Start Num: 25

Candidate Starts for BroPlease\_12:

(Start: 25 @8450 has 110 MA's), (54, 8600), (55, 8603), (63, 8639), (74, 8726), (89, 8819), (94, 8837), (109, 8903),

Gene: BryanRecycles\_12 Start: 8558, Stop: 9010, Start Num: 25

Candidate Starts for BryanRecycles\_12:

(14, 8519), (Start: 25 @8558 has 110 MA's), (63, 8750), (86, 8906),

Gene: Caelum\_12 Start: 8087, Stop: 8563, Start Num: 25

Candidate Starts for Caelum\_12:

(Start: 25 @8087 has 110 MA's), (63, 8285), (109, 8549),

Gene: Caliburn\_11 Start: 8375, Stop: 8827, Start Num: 25

Candidate Starts for Caliburn\_11:

(14, 8336), (Start: 25 @8375 has 110 MA's), (63, 8567), (86, 8723),

Gene: Cappuccino\_8 Start: 7252, Stop: 7719, Start Num: 19

Candidate Starts for Cappuccino\_8:

(5, 7201), (Start: 19 @7252 has 61 MA's), (56, 7444), (69, 7525), (76, 7576),

Gene: Caron\_7 Start: 7134, Stop: 7613, Start Num: 19

Candidate Starts for Caron\_7:

(Start: 19 @7134 has 61 MA's), (97, 7554), (104, 7605),

Gene: Cassia\_8 Start: 7956, Stop: 8351, Start Num: 19

Candidate Starts for Cassia\_8:

(Start: 19 @7956 has 61 MA's), (58, 8148), (64, 8193),

Gene: Celery\_14 Start: 8413, Stop: 8874, Start Num: 25

Candidate Starts for Celery\_14:

(Start: 25 @8413 has 110 MA's), (31, 8428), (63, 8602), (86, 8758), (101, 8818), (108, 8845), (109, 8860),

Gene: Celeste\_11 Start: 8365, Stop: 8814, Start Num: 25

Candidate Starts for Celeste\_11:

(Start: 9 @8308 has 1 MA's), (Start: 25 @8365 has 110 MA's), (54, 8515), (55, 8518), (63, 8554),

Gene: Celia\_11 Start: 8664, Stop: 9149, Start Num: 25

Candidate Starts for Celia\_11:

(Start: 25 @8664 has 110 MA's), (55, 8817), (63, 8853), (74, 8940),

Gene: Cen1621\_7 Start: 6257, Stop: 6748, Start Num: 19

Candidate Starts for Cen1621\_7:

(Start: 19 @6257 has 61 MA's), (102, 6710),

Gene: Chucky\_11 Start: 8365, Stop: 8814, Start Num: 25

Candidate Starts for Chucky\_11:

(Start: 25 @8365 has 110 MA's), (63, 8554), (99, 8758),

Gene: Community\_9 Start: 8908, Stop: 9315, Start Num: 19

Candidate Starts for Community\_9:

(Start: 19 @8908 has 61 MA's), (54, 9088), (57, 9097), (58, 9100), (60, 9106),

Gene: Conan\_12 Start: 8164, Stop: 8625, Start Num: 25

Candidate Starts for Conan\_12:

(Start: 25 @8164 has 110 MA's), (31, 8179), (63, 8353), (86, 8509), (109, 8611),

Gene: ConceptII\_18 Start: 13371, Stop: 13820, Start Num: 26

Candidate Starts for ConceptII\_18:

(Start: 26 @13371 has 11 MA's), (83, 13707), (102, 13782),

Gene: Cosmo\_31 Start: 14169, Stop: 14645, Start Num: 25

Candidate Starts for Cosmo\_31:

(Start: 25 @14169 has 110 MA's), (29, 14181), (39, 14253), (43, 14271), (47, 14295), (64, 14394), (65, 14403), (71, 14433), (85, 14520), (93, 14565), (99, 14592), (102, 14598),

Gene: Crewmate\_9 Start: 8291, Stop: 8698, Start Num: 19

Candidate Starts for Crewmate\_9:

(Start: 19 @8291 has 61 MA's), (54, 8471), (58, 8483), (64, 8528),

Gene: Cyan\_8 Start: 7843, Stop: 8250, Start Num: 19

Candidate Starts for Cyan\_8:

(Start: 19 @7843 has 61 MA's), (58, 8035),

Gene: Danzina\_12 Start: 8569, Stop: 9018, Start Num: 25

Candidate Starts for Danzina\_12:

(Start: 9 @8512 has 1 MA's), (Start: 25 @8569 has 110 MA's), (63, 8758),

Gene: Dattran\_12 Start: 8364, Stop: 8813, Start Num: 25

Candidate Starts for Dattran\_12:

(Start: 9 @8307 has 1 MA's), (Start: 25 @8364 has 110 MA's), (54, 8514), (55, 8517), (63, 8553),

Gene: Daudau\_11 Start: 8198, Stop: 8698, Start Num: 25

Candidate Starts for Daudau\_11:

(13, 8156), (Start: 25 @8198 has 110 MA's), (63, 8396), (80, 8516), (86, 8552), (87, 8558),

Gene: Dexers\_10 Start: 8157, Stop: 8618, Start Num: 25

Candidate Starts for Dexers\_10:

(Start: 25 @8157 has 110 MA's), (31, 8172), (63, 8346), (86, 8502), (109, 8604),

Gene: Diane\_11 Start: 8130, Stop: 8606, Start Num: 25

Candidate Starts for Diane\_11:

(Start: 25 @8130 has 110 MA's), (55, 8292), (63, 8328),

Gene: Diminimus\_20 Start: 11030, Stop: 11512, Start Num: 22  
Candidate Starts for Diminimus\_20:  
(Start: 22 @11030 has 20 MA's), (Start: 34 @11081 has 1 MA's), (55, 11210), (89, 11414), (96, 11438),

Gene: Donkey\_8 Start: 7252, Stop: 7719, Start Num: 19  
Candidate Starts for Donkey\_8:  
(5, 7201), (Start: 19 @7252 has 61 MA's), (56, 7444), (69, 7525), (76, 7576),

Gene: DrFeelGood\_16 Start: 12986, Stop: 13435, Start Num: 26  
Candidate Starts for DrFeelGood\_16:  
(Start: 26 @12986 has 11 MA's), (32, 13010), (83, 13322), (102, 13397),

Gene: DrManhattan\_8 Start: 7844, Stop: 8248, Start Num: 19  
Candidate Starts for DrManhattan\_8:  
(Start: 19 @7844 has 61 MA's), (54, 8024), (58, 8036),

Gene: DrSierra\_8 Start: 7783, Stop: 8259, Start Num: 4  
Candidate Starts for DrSierra\_8:  
(Start: 4 @7783 has 1 MA's), (15, 7828), (23, 7855),

Gene: Dulcita\_20 Start: 11030, Stop: 11512, Start Num: 22  
Candidate Starts for Dulcita\_20:  
(Start: 22 @11030 has 20 MA's), (Start: 34 @11081 has 1 MA's), (55, 11210), (89, 11414), (96, 11438),

Gene: Dwayne\_11 Start: 8364, Stop: 8813, Start Num: 25  
Candidate Starts for Dwayne\_11:  
(Start: 9 @8307 has 1 MA's), (Start: 25 @8364 has 110 MA's), (63, 8553), (99, 8757),

Gene: ELB20\_10 Start: 8214, Stop: 8711, Start Num: 25  
Candidate Starts for ELB20\_10:  
(Start: 25 @8214 has 110 MA's), (58, 8385), (63, 8412), (79, 8526), (86, 8568), (87, 8574), (109, 8697),

Gene: Eddasa\_12 Start: 8558, Stop: 9010, Start Num: 25  
Candidate Starts for Eddasa\_12:  
(14, 8519), (Start: 25 @8558 has 110 MA's), (63, 8750), (86, 8906),

Gene: Ejemplo\_11 Start: 8367, Stop: 8816, Start Num: 25  
Candidate Starts for Ejemplo\_11:  
(Start: 9 @8310 has 1 MA's), (Start: 25 @8367 has 110 MA's), (63, 8556), (99, 8760),

Gene: ElGato\_12 Start: 8167, Stop: 8628, Start Num: 25  
Candidate Starts for ElGato\_12:  
(Start: 25 @8167 has 110 MA's), (31, 8182), (63, 8356), (86, 8512), (109, 8614),

Gene: Elezi\_8 Start: 7827, Stop: 8234, Start Num: 19  
Candidate Starts for Elezi\_8:  
(Start: 19 @7827 has 61 MA's), (57, 8016), (58, 8019), (60, 8025), (64, 8064),

Gene: Emaanora\_13 Start: 8364, Stop: 8813, Start Num: 25

Candidate Starts for Emaanora\_13:  
(Start: 25 @8364 has 110 MA's), (63, 8553), (99, 8757),

Gene: Emotion\_7 Start: 6195, Stop: 6596, Start Num: 19  
Candidate Starts for Emotion\_7:  
(Start: 19 @6195 has 61 MA's),

Gene: EniyanLRS\_28 Start: 13863, Stop: 14339, Start Num: 25  
Candidate Starts for EniyanLRS\_28:  
(Start: 25 @13863 has 110 MA's), (29, 13875), (39, 13947), (43, 13965), (47, 13989), (64, 14088), (65, 14097), (71, 14127), (85, 14214), (93, 14259), (99, 14286), (102, 14292),

Gene: EnochSoames\_12 Start: 8554, Stop: 9006, Start Num: 25  
Candidate Starts for EnochSoames\_12:  
(14, 8515), (Start: 25 @8554 has 110 MA's), (63, 8746), (86, 8902),

Gene: Eraser\_8 Start: 7827, Stop: 8234, Start Num: 19  
Candidate Starts for Eraser\_8:  
(Start: 19 @7827 has 61 MA's), (57, 8016), (58, 8019), (60, 8025), (64, 8064),

Gene: Esperer\_11 Start: 8395, Stop: 8847, Start Num: 25  
Candidate Starts for Esperer\_11:  
(14, 8356), (Start: 25 @8395 has 110 MA's), (63, 8587), (86, 8743),

Gene: Estes\_24 Start: 11731, Stop: 12213, Start Num: 22  
Candidate Starts for Estes\_24:  
(Start: 22 @11731 has 20 MA's), (Start: 34 @11782 has 1 MA's), (43, 11836), (55, 11911), (89, 12115), (96, 12139),

Gene: Exile\_8 Start: 7864, Stop: 8262, Start Num: 19  
Candidate Starts for Exile\_8:  
(Start: 19 @7864 has 61 MA's), (54, 8044), (58, 8056),

Gene: Floop\_7 Start: 6625, Stop: 7029, Start Num: 19  
Candidate Starts for Floop\_7:  
(Start: 19 @6625 has 61 MA's), (33, 6670), (69, 6895), (70, 6901),

Gene: Footloose\_7 Start: 5771, Stop: 6229, Start Num: 53  
Candidate Starts for Footloose\_7:  
(Start: 53 @5771 has 1 MA's), (68, 5867), (79, 5942), (81, 5951), (82, 5963), (84, 5978), (93, 6032), (106, 6101), (111, 6143), (112, 6188),

Gene: Gambol\_8 Start: 7252, Stop: 7719, Start Num: 19  
Candidate Starts for Gambol\_8:  
(5, 7201), (Start: 19 @7252 has 61 MA's), (56, 7444), (69, 7525), (76, 7576),

Gene: GardenSalsa\_23 Start: 11567, Stop: 12049, Start Num: 22  
Candidate Starts for GardenSalsa\_23:  
(Start: 22 @11567 has 20 MA's), (Start: 34 @11618 has 1 MA's), (43, 11672), (55, 11747), (89, 11951), (96, 11975),

Gene: GardenState\_8 Start: 7336, Stop: 7818, Start Num: 19  
Candidate Starts for GardenState\_8:



(Start: 19 @7336 has 61 MA's), (33, 7387),

Gene: GenevaB15\_23 Start: 11594, Stop: 12076, Start Num: 22

Candidate Starts for GenevaB15\_23:

(Start: 22 @11594 has 20 MA's), (Start: 34 @11645 has 1 MA's), (43, 11699), (55, 11774), (89, 11978), (96, 12002),

Gene: GirlDinner\_11 Start: 8209, Stop: 8697, Start Num: 25

Candidate Starts for GirlDinner\_11:

(Start: 25 @8209 has 110 MA's), (45, 8320), (51, 8350), (63, 8407), (79, 8521), (86, 8563), (87, 8569), (103, 8638),

Gene: Glaske16\_20 Start: 11030, Stop: 11512, Start Num: 22

Candidate Starts for Glaske16\_20:

(Start: 22 @11030 has 20 MA's), (Start: 34 @11081 has 1 MA's), (55, 11210), (89, 11414), (96, 11438),

Gene: Goby\_11 Start: 8367, Stop: 8816, Start Num: 25

Candidate Starts for Goby\_11:

(Start: 9 @8310 has 1 MA's), (Start: 25 @8367 has 110 MA's), (63, 8556), (86, 8712),

Gene: Godpower\_12 Start: 8382, Stop: 8831, Start Num: 25

Candidate Starts for Godpower\_12:

(Start: 25 @8382 has 110 MA's), (63, 8571), (86, 8727),

Gene: Gompeii16\_17 Start: 13410, Stop: 13859, Start Num: 26

Candidate Starts for Gompeii16\_17:

(Start: 26 @13410 has 11 MA's), (32, 13434), (83, 13746), (102, 13821),

Gene: Graduation\_19 Start: 13675, Stop: 14124, Start Num: 26

Candidate Starts for Graduation\_19:

(Start: 26 @13675 has 11 MA's), (32, 13699), (83, 14011), (102, 14086),

Gene: GreenWeasel\_13 Start: 8459, Stop: 8926, Start Num: 25

Candidate Starts for GreenWeasel\_13:

(Start: 25 @8459 has 110 MA's), (54, 8609), (55, 8612), (63, 8648), (74, 8735), (89, 8828), (94, 8846), (109, 8912),

Gene: Gretchen\_8 Start: 8203, Stop: 8691, Start Num: 19

Candidate Starts for Gretchen\_8:

(Start: 19 @8203 has 61 MA's), (33, 8248), (69, 8473), (75, 8518), (91, 8611),

Gene: Haizum\_11 Start: 8160, Stop: 8636, Start Num: 25

Candidate Starts for Haizum\_11:

(Start: 25 @8160 has 110 MA's), (55, 8322), (63, 8358),

Gene: Halsey\_8 Start: 7343, Stop: 7810, Start Num: 19

Candidate Starts for Halsey\_8:

(5, 7292), (Start: 19 @7343 has 61 MA's), (56, 7535), (69, 7616),

Gene: Hank144\_12 Start: 8436, Stop: 8966, Start Num: 8

Candidate Starts for Hank144\_12:

(Start: 8 @8436 has 1 MA's), (12, 8451), (Start: 25 @8499 has 110 MA's), (59, 8673), (63, 8697), (79, 8811),

Gene: Hippo\_11 Start: 8364, Stop: 8813, Start Num: 25  
Candidate Starts for Hippo\_11:  
(Start: 25 @8364 has 110 MA's), (63, 8553), (99, 8757),

Gene: Honk\_7 Start: 6227, Stop: 6709, Start Num: 21  
Candidate Starts for Honk\_7:  
(Start: 21 @6227 has 1 MA's), (52, 6386), (59, 6416), (86, 6587), (102, 6665),

Gene: Hydra\_13 Start: 8923, Stop: 9375, Start Num: 25  
Candidate Starts for Hydra\_13:  
(14, 8884), (Start: 25 @8923 has 110 MA's), (63, 9115), (86, 9271),

Gene: IAmGroot\_8 Start: 7980, Stop: 8462, Start Num: 19  
Candidate Starts for IAmGroot\_8:  
(Start: 19 @7980 has 61 MA's), (33, 8031),

Gene: IPhone7\_19 Start: 11031, Stop: 11513, Start Num: 22  
Candidate Starts for IPhone7\_19:  
(Start: 22 @11031 has 20 MA's), (Start: 34 @11082 has 1 MA's), (55, 11211), (89, 11415), (96, 11439),

Gene: IgnatiusPatJac\_16 Start: 12912, Stop: 13361, Start Num: 26  
Candidate Starts for IgnatiusPatJac\_16:  
(Start: 26 @12912 has 11 MA's), (32, 12936), (83, 13248), (102, 13323),

Gene: Indigo\_11 Start: 8395, Stop: 8847, Start Num: 25  
Candidate Starts for Indigo\_11:  
(14, 8356), (Start: 25 @8395 has 110 MA's), (63, 8587), (86, 8743),

Gene: Issmi\_12 Start: 8440, Stop: 8916, Start Num: 25  
Candidate Starts for Issmi\_12:  
(Start: 25 @8440 has 110 MA's), (63, 8638), (91, 8830), (109, 8902),

Gene: Iter\_8 Start: 7909, Stop: 8259, Start Num: 35  
Candidate Starts for Iter\_8:  
(Start: 19 @7852 has 61 MA's), (Start: 35 @7909 has 1 MA's), (58, 8044), (64, 8089),

Gene: IttyBittyPiggy\_8 Start: 7843, Stop: 8253, Start Num: 19  
Candidate Starts for IttyBittyPiggy\_8:  
(Start: 19 @7843 has 61 MA's), (58, 8035), (64, 8080),

Gene: Itza\_11 Start: 8587, Stop: 9072, Start Num: 25  
Candidate Starts for Itza\_11:  
(Start: 25 @8587 has 110 MA's), (55, 8740), (63, 8776), (74, 8863),

Gene: Izzy\_12 Start: 8605, Stop: 9057, Start Num: 25  
Candidate Starts for Izzy\_12:  
(14, 8566), (Start: 25 @8605 has 110 MA's), (63, 8797), (86, 8953),

Gene: Janeemi\_9 Start: 8938, Stop: 9369, Start Num: 19

Candidate Starts for Janeemi\_9:  
(Start: 19 @8938 has 61 MA's), (58, 9130), (64, 9175),

Gene: Janus\_12 Start: 8547, Stop: 9035, Start Num: 25  
Candidate Starts for Janus\_12:  
(6, 8478), (Start: 25 @8547 has 110 MA's), (45, 8658), (51, 8688), (63, 8745), (79, 8859), (86, 8901),  
(87, 8907), (103, 8976),

Gene: Jash\_12 Start: 8558, Stop: 9010, Start Num: 25  
Candidate Starts for Jash\_12:  
(14, 8519), (Start: 25 @8558 has 110 MA's), (63, 8750), (86, 8906),

Gene: JasmineDragon\_7 Start: 6172, Stop: 6573, Start Num: 18  
Candidate Starts for JasmineDragon\_7:  
(Start: 18 @6172 has 2 MA's), (64, 6409),

Gene: Jevington\_13 Start: 8742, Stop: 9218, Start Num: 25  
Candidate Starts for Jevington\_13:  
(Start: 25 @8742 has 110 MA's), (48, 8862), (55, 8904), (74, 9027), (91, 9132), (99, 9147), (109,  
9204),

Gene: Joemato\_8 Start: 7843, Stop: 8250, Start Num: 19  
Candidate Starts for Joemato\_8:  
(Start: 19 @7843 has 61 MA's), (58, 8035),

Gene: JohnDoe\_8 Start: 7841, Stop: 8248, Start Num: 19  
Candidate Starts for JohnDoe\_8:  
(Start: 19 @7841 has 61 MA's), (58, 8033),

Gene: Jstan\_8 Start: 7827, Stop: 8234, Start Num: 19  
Candidate Starts for Jstan\_8:  
(Start: 19 @7827 has 61 MA's), (57, 8016), (58, 8019), (60, 8025), (64, 8064),

Gene: JuneStar\_8 Start: 7957, Stop: 8352, Start Num: 19  
Candidate Starts for JuneStar\_8:  
(Start: 19 @7957 has 61 MA's), (64, 8194),

Gene: Kaine\_11 Start: 8157, Stop: 8618, Start Num: 25  
Candidate Starts for Kaine\_11:  
(Start: 25 @8157 has 110 MA's), (31, 8172), (63, 8346), (86, 8502), (109, 8604),

Gene: Kalimba\_8 Start: 7252, Stop: 7719, Start Num: 19  
Candidate Starts for Kalimba\_8:  
(5, 7201), (Start: 19 @7252 has 61 MA's), (56, 7444), (69, 7525), (76, 7576),

Gene: Katalie\_12 Start: 8637, Stop: 9086, Start Num: 25  
Candidate Starts for Katalie\_12:  
(Start: 9 @8580 has 1 MA's), (Start: 25 @8637 has 110 MA's), (63, 8826),

Gene: Kaylissa\_8 Start: 7844, Stop: 8251, Start Num: 19  
Candidate Starts for Kaylissa\_8:  
(Start: 19 @7844 has 61 MA's), (58, 8036),

Gene: KeAlii\_8 Start: 7870, Stop: 8277, Start Num: 19  
Candidate Starts for KeAlii\_8:  
(Start: 19 @7870 has 61 MA's), (Start: 35 @7927 has 1 MA's),

Gene: Kumao\_18 Start: 10373, Stop: 10849, Start Num: 25  
Candidate Starts for Kumao\_18:  
(Start: 25 @10373 has 110 MA's), (31, 10391), (Start: 34 @10412 has 1 MA's), (36, 10418), (41, 10460), (43, 10472), (63, 10583), (64, 10601), (66, 10613), (90, 10754), (95, 10772), (98, 10784),

Gene: Lannister\_12 Start: 8385, Stop: 8834, Start Num: 25  
Candidate Starts for Lannister\_12:  
(Start: 25 @8385 has 110 MA's), (63, 8574),

Gene: Legacy\_11 Start: 8366, Stop: 8818, Start Num: 25  
Candidate Starts for Legacy\_11:  
(14, 8327), (Start: 25 @8366 has 110 MA's), (63, 8558), (86, 8714),

Gene: Lego\_8 Start: 7842, Stop: 8249, Start Num: 19  
Candidate Starts for Lego\_8:  
(Start: 19 @7842 has 61 MA's), (58, 8034),

Gene: Leviticus\_11 Start: 8395, Stop: 8847, Start Num: 25  
Candidate Starts for Leviticus\_11:  
(14, 8356), (Start: 25 @8395 has 110 MA's), (63, 8587), (86, 8743),

Gene: Lewan\_9 Start: 7270, Stop: 7695, Start Num: 34  
Candidate Starts for Lewan\_9:  
(Start: 25 @7231 has 110 MA's), (32, 7258), (Start: 34 @7270 has 1 MA's), (46, 7345), (47, 7348), (55, 7396), (59, 7408), (60, 7411), (67, 7465), (86, 7570), (100, 7642), (105, 7681), (107, 7684),

Gene: Liebe\_7 Start: 6336, Stop: 6731, Start Num: 19  
Candidate Starts for Liebe\_7:  
(Start: 19 @6336 has 61 MA's), (58, 6528), (77, 6657),

Gene: Lika\_11 Start: 8383, Stop: 8832, Start Num: 25  
Candidate Starts for Lika\_11:  
(Start: 25 @8383 has 110 MA's), (63, 8572), (86, 8728),

Gene: LilhomieP\_18 Start: 11031, Stop: 11513, Start Num: 22  
Candidate Starts for LilhomieP\_18:  
(Start: 22 @11031 has 20 MA's), (Start: 34 @11082 has 1 MA's), (55, 11211), (89, 11415), (96, 11439),

Gene: Lizalica\_8 Start: 7834, Stop: 8241, Start Num: 19  
Candidate Starts for Lizalica\_8:  
(Start: 19 @7834 has 61 MA's), (58, 8026), (64, 8071),

Gene: London\_8 Start: 7827, Stop: 8234, Start Num: 19  
Candidate Starts for London\_8:  
(Start: 19 @7827 has 61 MA's), (57, 8016), (58, 8019), (60, 8025), (64, 8064),

Gene: Loofah\_12 Start: 8254, Stop: 8751, Start Num: 25  
Candidate Starts for Loofah\_12:

(Start: 25 @8254 has 110 MA's), (58, 8425), (63, 8452), (79, 8566), (86, 8608), (87, 8614), (109, 8737),

Gene: Lorelei\_11 Start: 8361, Stop: 8804, Start Num: 25

Candidate Starts for Lorelei\_11:

(Start: 9 @8304 has 1 MA's), (Start: 25 @8361 has 110 MA's), (63, 8544), (99, 8748),

Gene: MaGuCo\_7 Start: 6195, Stop: 6590, Start Num: 19

Candidate Starts for MaGuCo\_7:

(Start: 19 @6195 has 61 MA's), (58, 6387), (77, 6516),

Gene: Mabodamaca\_8 Start: 7413, Stop: 7892, Start Num: 19

Candidate Starts for Mabodamaca\_8:

(Start: 19 @7413 has 61 MA's), (70, 7689), (104, 7884),

Gene: Maneekul\_11 Start: 8366, Stop: 8815, Start Num: 25

Candidate Starts for Maneekul\_11:

(Start: 9 @8309 has 1 MA's), (Start: 25 @8366 has 110 MA's), (63, 8555), (99, 8759),

Gene: Marav\_14 Start: 9092, Stop: 9568, Start Num: 25

Candidate Starts for Marav\_14:

(Start: 25 @9092 has 110 MA's), (48, 9212), (55, 9254), (63, 9290), (91, 9482), (109, 9554),

Gene: MaryV\_31 Start: 14135, Stop: 14611, Start Num: 25

Candidate Starts for MaryV\_31:

(Start: 25 @14135 has 110 MA's), (29, 14147), (39, 14219), (43, 14237), (47, 14261), (64, 14360), (65, 14369), (71, 14399), (85, 14486), (93, 14531), (99, 14558), (102, 14564),

Gene: Maureen\_7 Start: 6336, Stop: 6731, Start Num: 19

Candidate Starts for Maureen\_7:

(Start: 19 @6336 has 61 MA's), (58, 6528), (77, 6657),

Gene: MiniMommy\_7 Start: 6172, Stop: 6573, Start Num: 18

Candidate Starts for MiniMommy\_7:

(Start: 18 @6172 has 2 MA's), (64, 6409),

Gene: MissSwiss\_8 Start: 7857, Stop: 8261, Start Num: 19

Candidate Starts for MissSwiss\_8:

(Start: 19 @7857 has 61 MA's), (48, 7992), (54, 8037), (58, 8049),

Gene: Moss\_8 Start: 7343, Stop: 7810, Start Num: 19

Candidate Starts for Moss\_8:

(5, 7292), (Start: 19 @7343 has 61 MA's), (56, 7535), (69, 7616),

Gene: MrMagoo\_23 Start: 11567, Stop: 12049, Start Num: 22

Candidate Starts for MrMagoo\_23:

(Start: 22 @11567 has 20 MA's), (Start: 34 @11618 has 1 MA's), (43, 11672), (55, 11747), (89, 11951), (96, 11975),

Gene: Mudpuppy\_8 Start: 7842, Stop: 8249, Start Num: 19

Candidate Starts for Mudpuppy\_8:

(Start: 19 @7842 has 61 MA's), (58, 8034),

Gene: Mysterium\_8 Start: 7344, Stop: 7811, Start Num: 19

Candidate Starts for Mysterium\_8:

(5, 7293), (Start: 19 @7344 has 61 MA's), (56, 7536), (69, 7617),

Gene: Nabi\_11 Start: 8361, Stop: 8804, Start Num: 25

Candidate Starts for Nabi\_11:

(Start: 9 @8304 has 1 MA's), (Start: 25 @8361 has 110 MA's), (63, 8544), (99, 8748),

Gene: Nanodon\_13 Start: 8557, Stop: 9006, Start Num: 25

Candidate Starts for Nanodon\_13:

(Start: 25 @8557 has 110 MA's), (63, 8746),

Gene: Nanosmite\_23 Start: 11785, Stop: 12267, Start Num: 22

Candidate Starts for Nanosmite\_23:

(20, 11779), (Start: 22 @11785 has 20 MA's), (27, 11806), (Start: 34 @11836 has 1 MA's), (55, 11965), (96, 12193),

Gene: Nerdos\_11 Start: 8395, Stop: 8847, Start Num: 25

Candidate Starts for Nerdos\_11:

(14, 8356), (Start: 25 @8395 has 110 MA's), (63, 8587), (86, 8743),

Gene: Niobe\_8 Start: 7827, Stop: 8234, Start Num: 19

Candidate Starts for Niobe\_8:

(Start: 19 @7827 has 61 MA's), (57, 8016), (58, 8019), (60, 8025), (64, 8064),

Gene: Nishikigoi\_11 Start: 8160, Stop: 8636, Start Num: 25

Candidate Starts for Nishikigoi\_11:

(Start: 25 @8160 has 110 MA's), (55, 8322), (63, 8358),

Gene: Nitro\_8 Start: 7844, Stop: 8251, Start Num: 19

Candidate Starts for Nitro\_8:

(Start: 19 @7844 has 61 MA's), (58, 8036), (64, 8081),

Gene: ObiToo\_8 Start: 8041, Stop: 8436, Start Num: 19

Candidate Starts for ObiToo\_8:

(Start: 19 @8041 has 61 MA's), (54, 8221), (58, 8233), (64, 8278),

Gene: Oliynyk\_12 Start: 8558, Stop: 9010, Start Num: 25

Candidate Starts for Oliynyk\_12:

(14, 8519), (Start: 25 @8558 has 110 MA's), (63, 8750), (86, 8906),

Gene: Omar\_12 Start: 8382, Stop: 8870, Start Num: 25

Candidate Starts for Omar\_12:

(Start: 25 @8382 has 110 MA's), (55, 8544), (63, 8580), (74, 8667), (87, 8742), (103, 8811),

Gene: Ozzie\_11 Start: 8375, Stop: 8827, Start Num: 25

Candidate Starts for Ozzie\_11:

(14, 8336), (Start: 25 @8375 has 110 MA's), (63, 8567), (86, 8723),

Gene: OzzyJ\_12 Start: 8358, Stop: 8807, Start Num: 25

Candidate Starts for OzzyJ\_12:

(Start: 9 @8301 has 1 MA's), (Start: 25 @8358 has 110 MA's), (63, 8547), (99, 8751),

Gene: Pablito\_11 Start: 8226, Stop: 8696, Start Num: 25

Candidate Starts for Pablito\_11:

(Start: 8 @8163 has 1 MA's), (12, 8178), (Start: 25 @8226 has 110 MA's), (63, 8424), (74, 8511), (79, 8538), (87, 8586),

Gene: PacerPaul\_17 Start: 13148, Stop: 13597, Start Num: 26

Candidate Starts for PacerPaul\_17:

(Start: 26 @13148 has 11 MA's), (83, 13484), (102, 13559),

Gene: Paedore\_11 Start: 8254, Stop: 8751, Start Num: 25

Candidate Starts for Paedore\_11:

(Start: 25 @8254 has 110 MA's), (58, 8425), (63, 8452), (79, 8566), (86, 8608), (87, 8614), (109, 8737),

Gene: Paolo\_13 Start: 8769, Stop: 9245, Start Num: 25

Candidate Starts for Paolo\_13:

(Start: 8 @8706 has 1 MA's), (12, 8721), (Start: 25 @8769 has 110 MA's), (48, 8889), (63, 8967), (91, 9159), (109, 9231),

Gene: Pavo\_12 Start: 8437, Stop: 8898, Start Num: 25

Candidate Starts for Pavo\_12:

(Start: 25 @8437 has 110 MA's), (31, 8452), (63, 8626), (86, 8782), (109, 8884),

Gene: PegLeg\_19 Start: 11030, Stop: 11512, Start Num: 22

Candidate Starts for PegLeg\_19:

(Start: 22 @11030 has 20 MA's), (Start: 34 @11081 has 1 MA's), (55, 11210), (89, 11414), (96, 11438),

Gene: Percival\_8 Start: 8037, Stop: 8525, Start Num: 19

Candidate Starts for Percival\_8:

(Start: 19 @8037 has 61 MA's), (33, 8082), (58, 8232), (69, 8307), (75, 8352), (91, 8445),

Gene: Phettuccine\_11 Start: 8395, Stop: 8847, Start Num: 25

Candidate Starts for Phettuccine\_11:

(14, 8356), (Start: 25 @8395 has 110 MA's), (63, 8587), (86, 8743),

Gene: Phives\_9 Start: 8933, Stop: 9340, Start Num: 19

Candidate Starts for Phives\_9:

(Start: 19 @8933 has 61 MA's), (48, 9068), (58, 9125), (64, 9170),

Gene: Pixelle\_8 Start: 7876, Stop: 8283, Start Num: 19

Candidate Starts for Pixelle\_8:

(Start: 19 @7876 has 61 MA's), (48, 8011), (58, 8068), (64, 8113),

Gene: Powerpuff\_8 Start: 7893, Stop: 8300, Start Num: 19

Candidate Starts for Powerpuff\_8:

(Start: 19 @7893 has 61 MA's), (58, 8085),

Gene: Provolone\_12 Start: 8167, Stop: 8628, Start Num: 25

Candidate Starts for Provolone\_12:

(Start: 25 @8167 has 110 MA's), (31, 8182), (63, 8356), (86, 8512), (109, 8614),

Gene: Puginator\_13 Start: 8715, Stop: 9191, Start Num: 25

Candidate Starts for Puginator\_13:  
(Start: 25 @8715 has 110 MA's), (48, 8835), (63, 8913), (109, 9177),

Gene: Pumpkins\_8 Start: 7958, Stop: 8353, Start Num: 19  
Candidate Starts for Pumpkins\_8:  
(Start: 19 @7958 has 61 MA's), (58, 8150), (64, 8195),

Gene: R4\_11 Start: 8225, Stop: 8722, Start Num: 25  
Candidate Starts for R4\_11:  
(Start: 25 @8225 has 110 MA's), (58, 8396), (63, 8423), (79, 8537), (86, 8579), (87, 8585), (109, 8708),

Gene: Rana\_11 Start: 8361, Stop: 8804, Start Num: 25  
Candidate Starts for Rana\_11:  
(Start: 9 @8304 has 1 MA's), (Start: 25 @8361 has 110 MA's), (63, 8544), (99, 8748),

Gene: RedBear\_13 Start: 8637, Stop: 9086, Start Num: 25  
Candidate Starts for RedBear\_13:  
(Start: 9 @8580 has 1 MA's), (Start: 25 @8637 has 110 MA's), (63, 8826),

Gene: Reedo\_8 Start: 7890, Stop: 8297, Start Num: 19  
Candidate Starts for Reedo\_8:  
(Start: 19 @7890 has 61 MA's), (54, 8070),

Gene: Reindeer\_17 Start: 10883, Stop: 11365, Start Num: 22  
Candidate Starts for Reindeer\_17:  
(Start: 22 @10883 has 20 MA's), (Start: 34 @10934 has 1 MA's), (38, 10961), (49, 11024), (55, 11063), (89, 11267), (96, 11291),

Gene: Rey\_23 Start: 11802, Stop: 12284, Start Num: 22  
Candidate Starts for Rey\_23:  
(Start: 22 @11802 has 20 MA's), (Start: 34 @11853 has 1 MA's), (43, 11907), (55, 11982), (89, 12186), (96, 12210),

Gene: Rusticus\_12 Start: 8558, Stop: 9010, Start Num: 25  
Candidate Starts for Rusticus\_12:  
(14, 8519), (Start: 25 @8558 has 110 MA's), (63, 8750), (86, 8906),

Gene: SPB78\_9 Start: 6952, Stop: 7395, Start Num: 21  
Candidate Starts for SPB78\_9:  
(1, 6325), (2, 6727), (3, 6838), (10, 6910), (Start: 21 @6952 has 1 MA's), (44, 7078), (63, 7159), (76, 7258), (77, 7261),

Gene: Saftant\_11 Start: 8442, Stop: 8903, Start Num: 25  
Candidate Starts for Saftant\_11:  
(Start: 25 @8442 has 110 MA's), (63, 8631), (86, 8787), (108, 8874), (109, 8889),

Gene: SarahRose\_11 Start: 8364, Stop: 8813, Start Num: 25  
Candidate Starts for SarahRose\_11:  
(Start: 25 @8364 has 110 MA's), (63, 8553), (99, 8757),

Gene: ShakeltOph\_7 Start: 6172, Stop: 6573, Start Num: 18  
Candidate Starts for ShakeltOph\_7:



(Start: 18 @6172 has 2 MA's), (64, 6409),

Gene: Simpson\_8 Start: 7843, Stop: 8250, Start Num: 19

Candidate Starts for Simpson\_8:

(Start: 19 @7843 has 61 MA's), (58, 8035),

Gene: Skinny\_20 Start: 11031, Stop: 11513, Start Num: 22

Candidate Starts for Skinny\_20:

(Start: 22 @11031 has 20 MA's), (Start: 34 @11082 has 1 MA's), (55, 11211), (89, 11415), (96, 11439),

Gene: SlimJimmy\_18 Start: 11030, Stop: 11512, Start Num: 22

Candidate Starts for SlimJimmy\_18:

(Start: 22 @11030 has 20 MA's), (Start: 34 @11081 has 1 MA's), (55, 11210), (89, 11414), (96, 11438),

Gene: Snek\_8 Start: 6968, Stop: 7366, Start Num: 19

Candidate Starts for Snek\_8:

(Start: 19 @6968 has 61 MA's),

Gene: Snorlax\_11 Start: 8364, Stop: 8813, Start Num: 25

Candidate Starts for Snorlax\_11:

(Start: 25 @8364 has 110 MA's), (63, 8553), (99, 8757),

Gene: Soondubu\_8 Start: 7865, Stop: 8263, Start Num: 19

Candidate Starts for Soondubu\_8:

(Start: 19 @7865 has 61 MA's), (54, 8045), (58, 8057),

Gene: Sooty\_8 Start: 7253, Stop: 7720, Start Num: 19

Candidate Starts for Sooty\_8:

(5, 7202), (Start: 19 @7253 has 61 MA's), (56, 7445), (69, 7526), (76, 7577),

Gene: South40\_12 Start: 8637, Stop: 9086, Start Num: 25

Candidate Starts for South40\_12:

(Start: 9 @8580 has 1 MA's), (Start: 25 @8637 has 110 MA's), (63, 8826),

Gene: SpecialK\_8 Start: 7250, Stop: 7717, Start Num: 19

Candidate Starts for SpecialK\_8:

(5, 7199), (Start: 19 @7250 has 61 MA's), (56, 7442), (69, 7523),

Gene: Speedwell\_16 Start: 10184, Stop: 10633, Start Num: 25

Candidate Starts for Speedwell\_16:

(Start: 25 @10184 has 110 MA's), (37, 10247), (54, 10334), (63, 10373), (86, 10529), (108, 10610),

Gene: SqueakyClean\_12 Start: 8473, Stop: 8961, Start Num: 25

Candidate Starts for SqueakyClean\_12:

(6, 8404), (Start: 25 @8473 has 110 MA's), (45, 8584), (51, 8614), (55, 8635), (63, 8671), (79, 8785), (86, 8827), (87, 8833), (103, 8902),

Gene: StrongArm\_16 Start: 13900, Stop: 14349, Start Num: 26

Candidate Starts for StrongArm\_16:

(Start: 26 @13900 has 11 MA's), (32, 13924), (83, 14236), (102, 14311),

Gene: SuMoo\_7 Start: 6373, Stop: 6852, Start Num: 19  
Candidate Starts for SuMoo\_7:  
(Start: 19 @6373 has 61 MA's), (70, 6649), (104, 6844),

Gene: Sue2\_8 Start: 7875, Stop: 8270, Start Num: 19  
Candidate Starts for Sue2\_8:  
(Start: 19 @7875 has 61 MA's), (64, 8112),

Gene: Sujidade\_12 Start: 8602, Stop: 9108, Start Num: 9  
Candidate Starts for Sujidade\_12:  
(Start: 9 @8602 has 1 MA's), (Start: 25 @8659 has 110 MA's), (63, 8848), (86, 9004),

Gene: SunsetPointe\_11 Start: 8385, Stop: 8837, Start Num: 25  
Candidate Starts for SunsetPointe\_11:  
(14, 8346), (Start: 25 @8385 has 110 MA's), (63, 8577), (86, 8733),

Gene: Superstar\_13 Start: 9291, Stop: 9767, Start Num: 25  
Candidate Starts for Superstar\_13:  
(Start: 25 @9291 has 110 MA's), (63, 9489), (91, 9681), (109, 9753),

Gene: TagePhighter\_12 Start: 8364, Stop: 8813, Start Num: 25  
Candidate Starts for TagePhighter\_12:  
(Start: 25 @8364 has 110 MA's), (63, 8553), (99, 8757),

Gene: Tallboi\_8 Start: 7862, Stop: 8269, Start Num: 19  
Candidate Starts for Tallboi\_8:  
(Start: 19 @7862 has 61 MA's), (58, 8054),

Gene: Tbone\_8 Start: 7839, Stop: 8246, Start Num: 19  
Candidate Starts for Tbone\_8:  
(Start: 19 @7839 has 61 MA's), (58, 8031),

Gene: Tefunt\_11 Start: 8160, Stop: 8636, Start Num: 25  
Candidate Starts for Tefunt\_11:  
(Start: 25 @8160 has 110 MA's), (55, 8322), (63, 8358),

Gene: TforTroy\_8 Start: 7981, Stop: 8379, Start Num: 19  
Candidate Starts for TforTroy\_8:  
(16, 7975), (Start: 19 @7981 has 61 MA's), (58, 8173), (64, 8218),

Gene: Thestral\_12 Start: 8238, Stop: 8711, Start Num: 25  
Candidate Starts for Thestral\_12:  
(Start: 7 @8172 has 1 MA's), (11, 8187), (13, 8193), (Start: 19 @8217 has 61 MA's), (Start: 25 @8238 has 110 MA's), (46, 8352), (58, 8406), (63, 8433), (109, 8697),

Gene: Tian\_8 Start: 7873, Stop: 8280, Start Num: 19  
Candidate Starts for Tian\_8:  
(Start: 19 @7873 has 61 MA's), (58, 8065), (64, 8110),

Gene: TinaBelcher\_11 Start: 8186, Stop: 8659, Start Num: 25  
Candidate Starts for TinaBelcher\_11:  
(Start: 7 @8120 has 1 MA's), (11, 8135), (13, 8141), (Start: 19 @8165 has 61 MA's), (Start: 25 @8186 has 110 MA's), (46, 8300), (63, 8381), (109, 8645),

Gene: Toma\_11 Start: 8367, Stop: 8816, Start Num: 25  
Candidate Starts for Toma\_11:  
(Start: 9 @8310 has 1 MA's), (Start: 25 @8367 has 110 MA's), (63, 8556), (86, 8712),

Gene: Tripl3t\_18 Start: 13860, Stop: 14309, Start Num: 26  
Candidate Starts for Tripl3t\_18:  
(Start: 26 @13860 has 11 MA's), (32, 13884), (83, 14196), (102, 14271),

Gene: Triste\_11 Start: 8358, Stop: 8807, Start Num: 25  
Candidate Starts for Triste\_11:  
(Start: 9 @8301 has 1 MA's), (Start: 25 @8358 has 110 MA's), (63, 8547), (99, 8751),

Gene: Triumph\_13 Start: 8256, Stop: 8726, Start Num: 25  
Candidate Starts for Triumph\_13:  
(Start: 25 @8256 has 110 MA's), (63, 8454), (79, 8568), (91, 8646),

Gene: TrvxScott\_10 Start: 8121, Stop: 8660, Start Num: 7  
Candidate Starts for TrvxScott\_10:  
(Start: 7 @8121 has 1 MA's), (11, 8136), (13, 8142), (Start: 19 @8166 has 61 MA's), (Start: 25 @8187 has 110 MA's), (46, 8301), (63, 8382), (109, 8646),

Gene: TuanPN\_11 Start: 8367, Stop: 8816, Start Num: 25  
Candidate Starts for TuanPN\_11:  
(Start: 9 @8310 has 1 MA's), (Start: 25 @8367 has 110 MA's), (63, 8556), (99, 8760),

Gene: Tuck\_9 Start: 8887, Stop: 9315, Start Num: 19  
Candidate Starts for Tuck\_9:  
(Start: 19 @8887 has 61 MA's), (58, 9079),

Gene: Turab\_8 Start: 7857, Stop: 8264, Start Num: 19  
Candidate Starts for Turab\_8:  
(Start: 19 @7857 has 61 MA's), (58, 8049), (64, 8094),

Gene: Tutumahutu\_8 Start: 7893, Stop: 8300, Start Num: 19  
Candidate Starts for Tutumahutu\_8:  
(Start: 19 @7893 has 61 MA's), (58, 8085),

Gene: Tweety19\_8 Start: 6967, Stop: 7365, Start Num: 19  
Candidate Starts for Tweety19\_8:  
(Start: 19 @6967 has 61 MA's),

Gene: TyDawg\_19 Start: 11031, Stop: 11513, Start Num: 22  
Candidate Starts for TyDawg\_19:  
(Start: 22 @11031 has 20 MA's), (Start: 34 @11082 has 1 MA's), (55, 11211), (89, 11415), (96, 11439),

Gene: Unstoppable\_11 Start: 8386, Stop: 8838, Start Num: 25  
Candidate Starts for Unstoppable\_11:  
(14, 8347), (Start: 25 @8386 has 110 MA's), (63, 8578), (86, 8734),

Gene: Urza\_11 Start: 8599, Stop: 9084, Start Num: 25  
Candidate Starts for Urza\_11:

(Start: 25 @8599 has 110 MA's), (55, 8752), (63, 8788), (74, 8875),

Gene: UtzChips\_7 Start: 7094, Stop: 7573, Start Num: 19

Candidate Starts for UtzChips\_7:

(17, 7088), (Start: 19 @7094 has 61 MA's), (104, 7565),

Gene: VResidence\_8 Start: 7916, Stop: 8323, Start Num: 19

Candidate Starts for VResidence\_8:

(Start: 19 @7916 has 61 MA's), (58, 8108),

Gene: VWB\_8 Start: 7039, Stop: 7449, Start Num: 24

Candidate Starts for VWB\_8:

(24, 7039), (44, 7153), (61, 7219), (62, 7222), (63, 7234),

Gene: Vanseggelen\_14 Start: 8092, Stop: 8553, Start Num: 25

Candidate Starts for Vanseggelen\_14:

(Start: 25 @8092 has 110 MA's), (31, 8107), (63, 8281), (86, 8437), (109, 8539),

Gene: Verabelle\_12 Start: 8442, Stop: 8903, Start Num: 25

Candidate Starts for Verabelle\_12:

(Start: 25 @8442 has 110 MA's), (31, 8457), (42, 8526), (63, 8631), (84, 8781), (108, 8874), (109, 8889),

Gene: Verse\_11 Start: 8560, Stop: 9018, Start Num: 25

Candidate Starts for Verse\_11:

(Start: 25 @8560 has 110 MA's), (37, 8623), (54, 8710), (63, 8749), (86, 8905), (108, 8989), (110, 9013),

Gene: VieEnRose\_11 Start: 8669, Stop: 9154, Start Num: 25

Candidate Starts for VieEnRose\_11:

(Start: 25 @8669 has 110 MA's), (31, 8684), (55, 8822), (63, 8858), (74, 8945),

Gene: VroomVroom\_7 Start: 6184, Stop: 6585, Start Num: 18

Candidate Starts for VroomVroom\_7:

(Start: 18 @6184 has 2 MA's), (64, 6421),

Gene: Warda\_8 Start: 7839, Stop: 8246, Start Num: 19

Candidate Starts for Warda\_8:

(Start: 19 @7839 has 61 MA's), (58, 8031),

Gene: Werner\_11 Start: 8365, Stop: 8814, Start Num: 25

Candidate Starts for Werner\_11:

(Start: 25 @8365 has 110 MA's), (63, 8554), (99, 8758),

Gene: Whatever\_11 Start: 8365, Stop: 8814, Start Num: 25

Candidate Starts for Whatever\_11:

(Start: 25 @8365 has 110 MA's), (63, 8554), (99, 8758),

Gene: Wildcat\_31 Start: 14145, Stop: 14621, Start Num: 25

Candidate Starts for Wildcat\_31:

(Start: 25 @14145 has 110 MA's), (29, 14157), (39, 14229), (43, 14247), (47, 14271), (64, 14370), (65, 14379), (71, 14409), (85, 14496), (93, 14541), (99, 14568), (102, 14574),

Gene: Wildwest\_9 Start: 8762, Stop: 9178, Start Num: 19

Candidate Starts for Wildwest\_9:

(Start: 19 @8762 has 61 MA's), (58, 8954), (69, 9029),

Gene: Yang\_8 Start: 7957, Stop: 8352, Start Num: 19

Candidate Starts for Yang\_8:

(Start: 19 @7957 has 61 MA's), (58, 8149), (64, 8194),

Gene: Yasdni1\_11 Start: 8363, Stop: 8812, Start Num: 25

Candidate Starts for Yasdni1\_11:

(Start: 9 @8306 has 1 MA's), (Start: 25 @8363 has 110 MA's), (63, 8552), (99, 8756),

Gene: YesChef\_8 Start: 7893, Stop: 8300, Start Num: 19

Candidate Starts for YesChef\_8:

(Start: 19 @7893 has 61 MA's), (58, 8085),

Gene: Yosif\_12 Start: 8821, Stop: 9279, Start Num: 25

Candidate Starts for Yosif\_12:

(Start: 25 @8821 has 110 MA's), (55, 8974), (63, 9010), (69, 9058), (86, 9166), (108, 9250), (109, 9265),

Gene: Zainub\_13 Start: 8727, Stop: 9203, Start Num: 25

Candidate Starts for Zainub\_13:

(Start: 8 @8664 has 1 MA's), (12, 8679), (Start: 25 @8727 has 110 MA's), (48, 8847), (63, 8925), (91, 9117), (109, 9189),

Gene: Zemlya\_12 Start: 8375, Stop: 8824, Start Num: 25

Candidate Starts for Zemlya\_12:

(Start: 9 @8318 has 1 MA's), (Start: 25 @8375 has 110 MA's), (54, 8525), (55, 8528), (63, 8564),

Gene: Zeta1847\_7 Start: 6205, Stop: 6684, Start Num: 19

Candidate Starts for Zeta1847\_7:

(Start: 19 @6205 has 61 MA's), (30, 6235), (105, 6679),

Gene: phiCAM\_12 Start: 10223, Stop: 10681, Start Num: 25

Candidate Starts for phiCAM\_12:

(Start: 25 @10223 has 110 MA's), (31, 10238), (63, 10412), (69, 10460), (86, 10568), (108, 10652), (110, 10676),

Gene: phiHau3\_13 Start: 8427, Stop: 8894, Start Num: 25

Candidate Starts for phiHau3\_13:

(Start: 25 @8427 has 110 MA's), (54, 8577), (55, 8580), (63, 8616), (74, 8703), (89, 8796), (94, 8814), (99, 8823), (109, 8880),