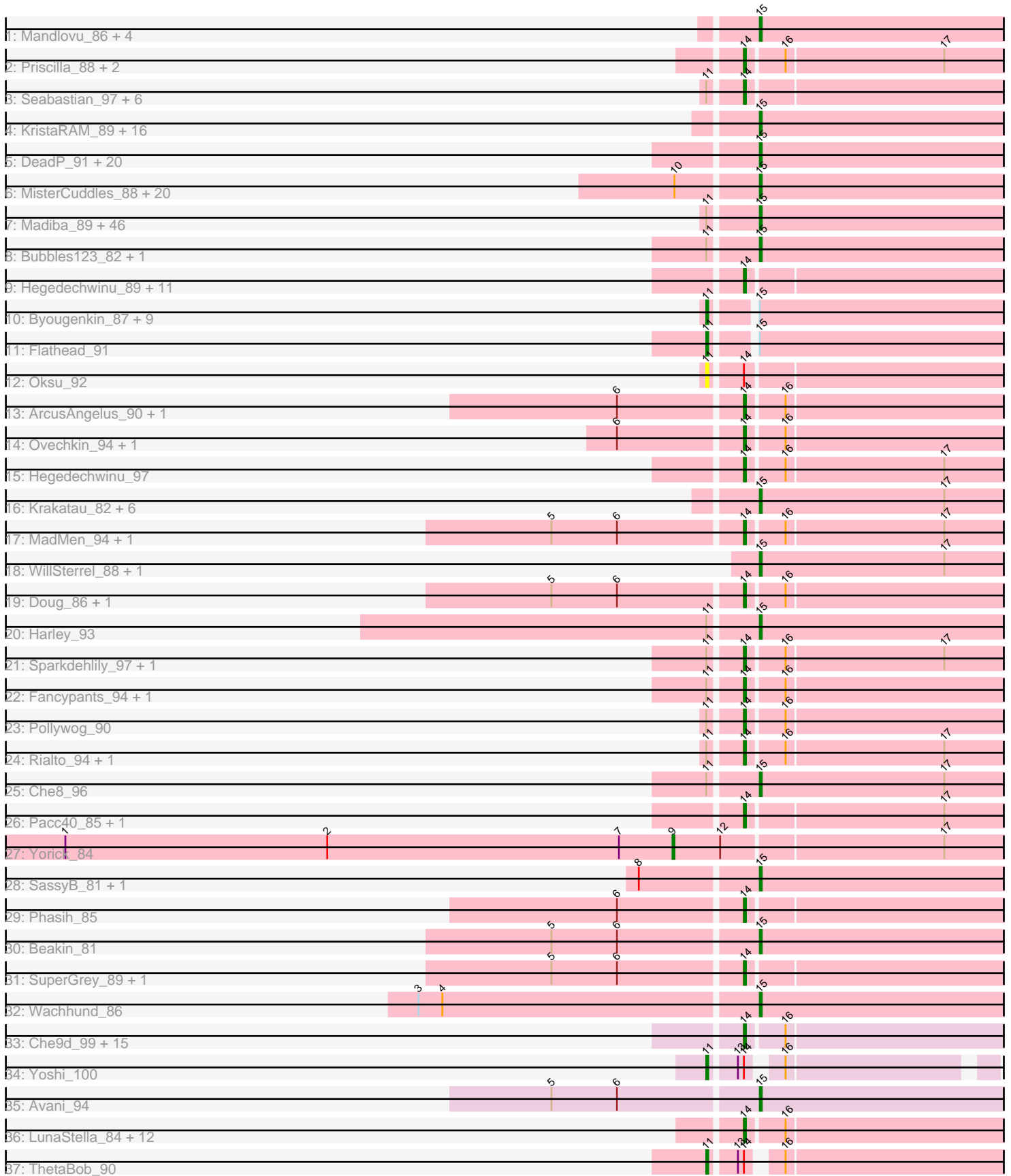


Pham 202671



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 202671 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202671 has 216 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Mandlovu\_86, Hlubikazi\_86, Phatniss\_86, Strokeseat\_86, Mozy\_96
- Track 2 : Priscilla\_88, NormanBulbieJr\_86, Koella\_80
- Track 3 : Seabastian\_97, OfUltron\_97, AlpineSix\_88, Jinglebell\_96, Modragons\_94, Llama\_96, Ochi17\_95
- Track 4 : KristaRAM\_89, Inventum\_86, James\_91, Jarcob\_90, BodEinwohner17\_97, Squirty\_89, SG4\_91, VRedHorse\_90, Plumbus\_89, Radiance\_85, Leperchaun\_90, Dorothy\_89, RedBird\_90, Constella\_60, Sassafra\_90, Stap\_85, Whouxphf\_89
- Track 5 : DeadP\_91, Taj\_97, Jabbawokkie\_96, Nivrat\_87, Cerasum\_84, Wee\_95, EleanorGeorge\_90, Phanphagia\_91, DaWorst\_88, Coco12\_87, Yorick\_81, BigPhil\_83, Velveteen\_84, LilMoolah\_89, Filuzino\_90, Blarby\_96, Zapner\_95, Kingsley\_94, Karhdo\_85, Sarma624\_89, Shauna1\_88
- Track 6 : MisterCuddles\_88, Geralt\_82, PHappiness\_89, Veteran\_82, RitaG\_89, MulchExplorer\_94, DillTech15\_93, Mantra\_87, Totinger\_90, Fastidio\_90, Deb65\_82, Leozinho\_87, LittleShirley\_94, SiSi\_86, Girr\_87, Kimberlium\_92, OldBen\_86, Juice456\_88, Nimbo\_81, Ruby\_85, QuickMath\_90
- Track 7 : Madiba\_89, DirtMcgirt\_88, Kenuha5\_84, JalFarm20\_96, Zizzle\_91, Guppsters\_82, BlueCrab\_90, DaddyRickover\_92, Tweety\_90, IMpilo\_83, Ms6\_90, Phalconet\_87, Crumble\_83, FreddyB\_96, Bobi\_92, Pippy\_83, Lorde\_89, PhesterPhotato\_93, Ramsey\_93, Burwell21\_82, BobaPhett\_88, Cabrinians\_84, Saal\_84, DLane\_88, Philus\_90, UncleRicky\_88, MilleniumForce\_89, Lizziana\_89, Enby\_90, LastJedi\_78, Hamulus\_89, Maravista\_85, StAnnes\_93, DRBy19\_91, Girafales\_96, SwagPigglett\_89, Whatsapiecost\_81, Donkeykong\_95, MinionDave\_87, PMC\_86, Mova\_92, Rockne\_90, Florinda\_99, DotProduct\_83, Chuckly\_81, Drago\_86, Gorge\_86
- Track 8 : Bubbles123\_82, Nitzel\_83
- Track 9 : Hegedechwinu\_89, Emma\_92, Eradicator\_81, Clifton\_80, Brushbloom\_95, Firehouse51\_84, Spartacus\_95, OwlsT2W\_88, CaptainTrips\_91, Renaud18\_97, Cornucopia\_89, Mutaforma13\_91
- Track 10 : Byougenkin\_87, Batiatus\_87, Boomer\_91, Quico\_96, Eish\_94, Soul22\_89, Ardmore\_74, Brocalys\_78, XFactor\_81, Hades\_87
- Track 11 : Flathead\_91
- Track 12 : Oksu\_92
- Track 13 : ArcusAngelus\_90, Chevrolet\_93
- Track 14 : Ovechkin\_94, Seagreen\_89
- Track 15 : Hegedechwinu\_97
- Track 16 : Krakatau\_82, OlympiaSaint\_90, Spoonbill\_86, ShroomBoi\_87, ShiLan\_90, GUmbie\_87, Mattes\_87

- Track 17 : MadMen\_94, Bipolar\_90
- Track 18 : WillSterrel\_88, IrishSherpFalk\_89
- Track 19 : Doug\_86, Gandalf\_88
- Track 20 : Harley\_93
- Track 21 : Sparkdehlily\_97, TDanisky\_98
- Track 22 : Fancypants\_94, STLscum\_66
- Track 23 : Pollywog\_90
- Track 24 : Rialto\_94, Moonbeam\_91
- Track 25 : Che8\_96
- Track 26 : Pacc40\_85, Ogopogo\_94
- Track 27 : Yorick\_84
- Track 28 : SassyB\_81, PopTart\_81
- Track 29 : Phasih\_85
- Track 30 : Beakin\_81
- Track 31 : SuperGrey\_89, Blexus\_85
- Track 32 : Wachhund\_86
- Track 33 : Che9d\_99, Zerg\_89, Galactic\_89, Royals2015\_94, Aubs\_89, IbOuu\_85, DoRead\_95, MilanaBonita\_83, Ibhubesi\_87, Llij\_86, Job42\_89, Starcevich\_89, BuzzLyseyear\_97, Estave1\_97, Akhila\_84, LunaBlu\_92
- Track 34 : Yoshi\_100
- Track 35 : Avani\_94
- Track 36 : LunaStella\_84, GigiOuiOui\_84, Kersh\_93, ByChance\_77, BAKA\_78, Alexphander\_91, Vivum\_92, TChen\_86, Martik\_85, Duke13\_76, Dante\_87, Sabb\_93, ShowerHandel\_86
- Track 37 : ThetaBob\_90

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

The start number called the most often in the published annotations is 15, it was called in 124 of the 205 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Avani\_94, Beakin\_81, BigPhil\_83, Blarby\_96, BlueCrab\_90, BobaPhett\_88, Bobi\_92, BodEinwohner17\_97, Bubbles123\_82, Burwell21\_82, Cabrinians\_84, Cerasum\_84, Che8\_96, Chuckly\_81, Coco12\_87, Constella\_60, Crumble\_83, DLane\_88, DRBy19\_91, DaWorst\_88, DaddyRickover\_92, DeadP\_91, Deb65\_82, DillTech15\_93, DirtMcgirt\_88, Donkeykong\_95, Dorothy\_89, DotProduct\_83, Drago\_86, EleanorGeorge\_90, Enby\_90, Fastidio\_90, Filuzino\_90, Florinda\_99, FreddyB\_96, GUmbie\_87, Geralt\_82, Girafales\_96, Girr\_87, Gorge\_86, Guppsters\_82, Hamulus\_89, Harley\_93, Hlubikazi\_86, IMpilo\_83, Inventum\_86, IrishSherpFalk\_89, Jabbawokkie\_96, JalFarm20\_96, James\_91, Jarcob\_90, Juice456\_88, Karhdo\_85, Kenuha5\_84, Kimberlium\_92, Kingsley\_94, Krakatau\_82, KristaRAM\_89, LastJedi\_78, Leozinho\_87, Leperchaun\_90, LilMoolah\_89, LittleShirley\_94, Lizziana\_89, Lorde\_89, Madiba\_89, Mandlovu\_86, Mantra\_87, Maravista\_85, Mattes\_87, MilleniumForce\_89, MinionDave\_87, MisterCuddles\_88, Mova\_92, Mozy\_96, Ms6\_90, MulchExplorer\_94, Nimbo\_81, Nitzel\_83, Nivrat\_87, OldBen\_86, OlympiaSaint\_90, PHappiness\_89, PMC\_86, Phalconet\_87, Phanphagia\_91, Phatniss\_86, PhesterPotato\_93, Philus\_90, Pippy\_83, Plumbus\_89, PopTart\_81, QuickMath\_90, Radiance\_85, Ramsey\_93, RedBird\_90, RitaG\_89, Rockne\_90, Ruby\_85, SG4\_91, Saal\_84, Sarma624\_89, Sassafra\_90,

SassyB\_81, Shauna1\_88, ShiLan\_90, ShroomBoi\_87, SiSi\_86, Spoonbill\_86, Squirty\_89, StAnnes\_93, Stap\_85, Strokeseat\_86, SwagPigglett\_89, Taj\_97, Totinger\_90, Tweety\_90, UncleRicky\_88, VRedHorse\_90, Velveteen\_84, Veteran\_82, Wachhund\_86, Wee\_95, Whatsapiecost\_81, Whouxphf\_89, WillSterrel\_88, Yorick\_81, Zapner\_95, Zizzle\_91,

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

- Ardmore\_74, Batiatus\_87, Boomer\_91, Brocalys\_78, Byougenkin\_87, Eish\_94, Flathead\_91, Hades\_87, Quico\_96, Soul22\_89, XFactor\_81,

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

- Akhila\_84, Alexphander\_91, AlpineSix\_88, ArcusAngelus\_90, Aubs\_89, BAKA\_78, Bipolar\_90, Blexus\_85, Brushbloom\_95, BuzzLyseyear\_97, ByChance\_77, CaptainTrips\_91, Che9d\_99, Chevrolet\_93, Clifton\_80, Cornucopia\_89, Dante\_87, DoRead\_95, Doug\_86, Duke13\_76, Emma\_92, Eradicator\_81, Estave1\_97, Fancypants\_94, Firehouse51\_84, Galactic\_89, Gandolph\_88, GigiOuiOui\_84, Hegedechwinu\_89, Hegedechwinu\_97, IbOuu\_85, Ibhubesi\_87, Jinglebell\_96, Job42\_89, Kersh\_93, Koella\_80, Llama\_96, Llij\_86, LunaBlu\_92, LunaStella\_84, MadMen\_94, Martik\_85, MilanaBonita\_83, Modragons\_94, Moonbeam\_91, Mutaforma13\_91, NormanBulbieJr\_86, Ochi17\_95, OfUltron\_97, Ogopogo\_94, Oksu\_92, Ovechkin\_94, OwlsT2W\_88, Pacc40\_85, Phasih\_85, Pollywog\_90, Priscilla\_88, Renaud18\_97, Rialto\_94, Royals2015\_94, STLscum\_66, Sabbb\_93, Seabastian\_97, Seagreen\_89, ShowerHandel\_86, Sparkdehlily\_97, Spartacus\_95, Starcevich\_89, SuperGrey\_89, TChen\_86, TDanisky\_98, ThetaBob\_90, Vivum\_92, Yorick\_84, Yoshi\_100, Zerg\_89,

### Summary by start number:

Start 9:

- Found in 1 of 216 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 205
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yorick\_84 (F1),

Start 11:

- Found in 79 of 216 ( 36.6% ) of genes in pham
- Manual Annotations of this start: 12 of 205
- Called 17.7% of time when present
- Phage (with cluster) where this start called: Ardmore\_74 (F1), Batiatus\_87 (F1), Boomer\_91 (F1), Brocalys\_78 (F1), Byougenkin\_87 (F1), Eish\_94 (F1), Flathead\_91 (F1), Hades\_87 (F1), Oksu\_92 (F1), Quico\_96 (F1), Soul22\_89 (F2), ThetaBob\_90 (F4), XFactor\_81 (F1), Yoshi\_100 (F2),

Start 14:

- Found in 75 of 216 ( 34.7% ) of genes in pham
- Manual Annotations of this start: 68 of 205
- Called 96.0% of time when present
- Phage (with cluster) where this start called: Akhila\_84 (F1), Alexphander\_91 (F1), AlpineSix\_88 (F1), ArcusAngelus\_90 (F1), Aubs\_89 (F1), BAKA\_78 (J), Bipolar\_90 (F1), Blexus\_85 (F1), Brushbloom\_95 (F1), BuzzLyseyear\_97 (F1), ByChance\_77 (F1), CaptainTrips\_91 (F1), Che9d\_99 (F2), Chevrolet\_93 (F1), Clifton\_80 (F1), Cornucopia\_89 (F1), Dante\_87 (F1), DoRead\_95 (F1), Doug\_86 (F1), Duke13\_76 (J), Emma\_92 (F1), Eradicator\_81 (F1), Estave1\_97 (F1), Fancypants\_94 (F1),

Firehouse51\_84 (F1), Galactic\_89 (F1), Gandolph\_88 (F1), GigiOuiOui\_84 (F1), Hegedechwinu\_89 (F1), Hegedechwinu\_97 (F1), IbOuu\_85 (F1), Ibhubesi\_87 (F1), Jinglebell\_96 (F1), Job42\_89 (F1), Kersh\_93 (F1), Koella\_80 (F1), Llama\_96 (F1), Llij\_86 (F1), LunaBlu\_92 (F1), LunaStella\_84 (F4), MadMen\_94 (F1), Martik\_85 (F1), MilanaBonita\_83 (F1), Modragons\_94 (F1), Moonbeam\_91 (F1), Mutaforma13\_91 (F1), NormanBulbieJr\_86 (F1), Ochi17\_95 (F1), OfUltron\_97 (F1), Ogopogo\_94 (F1), Ovechkin\_94 (F1), OwlsT2W\_88 (F1), Pacc40\_85 (F1), Phasih\_85 (F1), Pollywog\_90 (F1), Priscilla\_88 (F1), Renaud18\_97 (F4), Rialto\_94 (F1), Royals2015\_94 (F1), STLscum\_66 (A1), Sabbb\_93 (F1), Seabastian\_97 (F1), Seagreen\_89 (F1), ShowerHandel\_86 (F1), Sparkdehlily\_97 (F1), Spartacus\_95 (F1), Starceвич\_89 (F1), SuperGrey\_89 (F1), TChen\_86 (F4), TDanisky\_98 (F1), Vivum\_92 (F1), Zerg\_89 (F1),

Start 15:

- Found in 140 of 216 ( 64.8% ) of genes in pham
- Manual Annotations of this start: 124 of 205
- Called 92.1% of time when present
- Phage (with cluster) where this start called: Avani\_94 (F2), Beakin\_81 (F1), BigPhil\_83 (F1), Blarby\_96 (F), BlueCrab\_90 (F1), BobaPhett\_88 (F1), Bobi\_92 (F1), BodEinwohner17\_97 (F1), Bubbles123\_82 (F1), Burwell21\_82 (F1), Cabrinians\_84 (F1), Cerasum\_84 (F1), Che8\_96 (F1), Chuckly\_81 (F1), Coco12\_87 (F1), Constella\_60 (J), Crumble\_83 (F1), DLane\_88 (F1), DRBy19\_91 (F1), DaWorst\_88 (F1), DaddyRickover\_92 (F1), DeadP\_91 (F1), Deb65\_82 (F1), DillTech15\_93 (F1), DirtMcgirt\_88 (F1), Donkeykong\_95 (F1), Dorothy\_89 (F1), DotProduct\_83 (F1), Drago\_86 (F1), EleanorGeorge\_90 (F1), Enby\_90 (F1), Fastidio\_90 (F1), Filuzino\_90 (F1), Florinda\_99 (F1), FreddyB\_96 (F1), GUmbe\_87 (F1), Geralt\_82 (F1), Girafales\_96 (F1), Girr\_87 (F1), Gorge\_86 (F1), Guppsters\_82 (F1), Hamulus\_89 (F1), Harley\_93 (F1), Hlubikazi\_86 (F1), IMpilo\_83 (F1), Inventum\_86 (F1), IrishSherpFalk\_89 (F1), Jabbawokkie\_96 (F2), JalFarm20\_96 (F1), James\_91 (F1), Jarcob\_90 (F1), Juice456\_88 (F1), Karhdo\_85 (F1), Kenuha5\_84 (F1), Kimberlium\_92 (F1), Kingsley\_94 (F1), Krakatau\_82 (F1), KristaRAM\_89 (F1), LastJedi\_78 (F1), Leozinho\_87 (F1), Leperchaun\_90 (F1), LilMoolah\_89 (F1), LittleShirley\_94 (F1), Lizziana\_89 (F1), Lorde\_89 (F1), Madiba\_89 (F1), Mandlovu\_86 (F1), Mantra\_87 (F1), Maravista\_85 (F1), Mattes\_87 (F1), MilleniumForce\_89 (F1), MinionDave\_87 (F1), MisterCuddles\_88 (F1), Mova\_92 (F1), Mozy\_96 (F1), Ms6\_90 (F1), MulchExplorer\_94 (F1), Nimbo\_81 (F1), Nitzel\_83 (F1), Nivrat\_87 (F1), OldBen\_86 (F1), OlympiaSaint\_90 (F1), PHappiness\_89 (F1), PMC\_86 (F1), Phalconet\_87 (F1), Phanphagia\_91 (F1), Phatniss\_86 (F1), PhesterPhotato\_93 (F1), Philus\_90 (F1), Pippy\_83 (F1), Plumbus\_89 (F1), PopTart\_81 (F1), QuickMath\_90 (F1), Radiance\_85 (F1), Ramsey\_93 (F1), RedBird\_90 (F1), RitaG\_89 (F1), Rockne\_90 (F1), Ruby\_85 (F1), SG4\_91 (F1), Saal\_84 (F1), Sarma624\_89 (F1), Sassafras\_90 (F1), SassyB\_81 (F1), Shauna1\_88 (F1), ShiLan\_90 (F1), ShroomBoi\_87 (F1), SiSi\_86 (F1), Spoonbill\_86 (F1), Squirty\_89 (F3), StAnnes\_93 (F1), Stap\_85 (F1), Strokeseat\_86 (F1), SwagPigglett\_89 (F1), Taj\_97 (F1), Totinger\_90 (F1), Tweety\_90 (F1), UncleRicky\_88 (F1), VRedHorse\_90 (F1), Velveteen\_84 (F1), Veteran\_82 (F1), Wachhund\_86 (F1), Wee\_95 (F1), Whatsapiecost\_81 (F1), Whouxphf\_89 (F1), WillSterrel\_88 (F1), Yorick\_81 (F1), Zapner\_95 (F2), Zizzle\_91 (F1),

### Summary by clusters:

There are 7 clusters represented in this pham: F1, F2, F3, F4, F, J, A1,

Info for manual annotations of cluster A1:

- Start number 14 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster F1:

- Start number 9 was manually annotated 1 time for cluster F1.
- Start number 11 was manually annotated 9 times for cluster F1.
- Start number 14 was manually annotated 61 times for cluster F1.
- Start number 15 was manually annotated 119 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 11 was manually annotated 2 times for cluster F2.
- Start number 14 was manually annotated 1 time for cluster F2.
- Start number 15 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 15 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 11 was manually annotated 1 time for cluster F4.
- Start number 14 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster J:

- Start number 14 was manually annotated 2 times for cluster J.
- Start number 15 was manually annotated 1 time for cluster J.

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

Gene: Akhila\_84 Start: 49522, Stop: 49662, Start Num: 14

Candidate Starts for Akhila\_84:

(Start: 14 @49522 has 68 MA's), (16, 49540),

Gene: Alexphander\_91 Start: 51938, Stop: 52078, Start Num: 14

Candidate Starts for Alexphander\_91:

(Start: 14 @51938 has 68 MA's), (16, 51956),

Gene: AlpineSix\_88 Start: 50321, Stop: 50461, Start Num: 14

Candidate Starts for AlpineSix\_88:

(Start: 11 @50306 has 12 MA's), (Start: 14 @50321 has 68 MA's),

Gene: ArcusAngelus\_90 Start: 51734, Stop: 51874, Start Num: 14

Candidate Starts for ArcusAngelus\_90:

(6, 51674), (Start: 14 @51734 has 68 MA's), (16, 51752),

Gene: Ardmore\_74 Start: 45631, Stop: 45786, Start Num: 11

Candidate Starts for Ardmore\_74:

(Start: 11 @45631 has 12 MA's), (Start: 15 @45649 has 124 MA's),

Gene: Aubs\_89 Start: 51742, Stop: 51882, Start Num: 14

Candidate Starts for Aubs\_89:

(Start: 14 @51742 has 68 MA's), (16, 51760),

Gene: Avani\_94 Start: 48402, Stop: 48539, Start Num: 15  
Candidate Starts for Avani\_94:  
(5, 48306), (6, 48339), (Start: 15 @48402 has 124 MA's),

Gene: BAKA\_78 Start: 51467, Stop: 51327, Start Num: 14  
Candidate Starts for BAKA\_78:  
(Start: 14 @51467 has 68 MA's), (16, 51449),

Gene: Batiatus\_87 Start: 50505, Stop: 50660, Start Num: 11  
Candidate Starts for Batiatus\_87:  
(Start: 11 @50505 has 12 MA's), (Start: 15 @50523 has 124 MA's),

Gene: Beakin\_81 Start: 47274, Stop: 47411, Start Num: 15  
Candidate Starts for Beakin\_81:  
(5, 47178), (6, 47211), (Start: 15 @47274 has 124 MA's),

Gene: BigPhil\_83 Start: 47141, Stop: 47278, Start Num: 15  
Candidate Starts for BigPhil\_83:  
(Start: 15 @47141 has 124 MA's),

Gene: Bipolar\_90 Start: 52437, Stop: 52577, Start Num: 14  
Candidate Starts for Bipolar\_90:  
(5, 52344), (6, 52377), (Start: 14 @52437 has 68 MA's), (16, 52455), (17, 52533),

Gene: Blarby\_96 Start: 49169, Stop: 49306, Start Num: 15  
Candidate Starts for Blarby\_96:  
(Start: 15 @49169 has 124 MA's),

Gene: Blexus\_85 Start: 51046, Stop: 51186, Start Num: 14  
Candidate Starts for Blexus\_85:  
(5, 50953), (6, 50986), (Start: 14 @51046 has 68 MA's),

Gene: BlueCrab\_90 Start: 51733, Stop: 51870, Start Num: 15  
Candidate Starts for BlueCrab\_90:  
(Start: 11 @51715 has 12 MA's), (Start: 15 @51733 has 124 MA's),

Gene: BobaPhett\_88 Start: 52465, Stop: 52602, Start Num: 15  
Candidate Starts for BobaPhett\_88:  
(Start: 11 @52447 has 12 MA's), (Start: 15 @52465 has 124 MA's),

Gene: Bobi\_92 Start: 52268, Stop: 52405, Start Num: 15  
Candidate Starts for Bobi\_92:  
(Start: 11 @52250 has 12 MA's), (Start: 15 @52268 has 124 MA's),

Gene: BodEinwohner17\_97 Start: 53542, Stop: 53679, Start Num: 15  
Candidate Starts for BodEinwohner17\_97:  
(Start: 15 @53542 has 124 MA's),

Gene: Boomer\_91 Start: 51589, Stop: 51744, Start Num: 11  
Candidate Starts for Boomer\_91:  
(Start: 11 @51589 has 12 MA's), (Start: 15 @51607 has 124 MA's),

Gene: Brocalys\_78 Start: 47927, Stop: 48082, Start Num: 11  
Candidate Starts for Brocalys\_78:  
(Start: 11 @47927 has 12 MA's), (Start: 15 @47945 has 124 MA's),

Gene: Brushbloom\_95 Start: 51715, Stop: 51855, Start Num: 14  
Candidate Starts for Brushbloom\_95:  
(Start: 14 @51715 has 68 MA's),

Gene: Bubbles123\_82 Start: 50242, Stop: 50379, Start Num: 15  
Candidate Starts for Bubbles123\_82:  
(Start: 11 @50224 has 12 MA's), (Start: 15 @50242 has 124 MA's),

Gene: Burwell21\_82 Start: 50231, Stop: 50368, Start Num: 15  
Candidate Starts for Burwell21\_82:  
(Start: 11 @50213 has 12 MA's), (Start: 15 @50231 has 124 MA's),

Gene: BuzzLyseyear\_97 Start: 53702, Stop: 53842, Start Num: 14  
Candidate Starts for BuzzLyseyear\_97:  
(Start: 14 @53702 has 68 MA's), (16, 53720),

Gene: ByChance\_77 Start: 45854, Stop: 45994, Start Num: 14  
Candidate Starts for ByChance\_77:  
(Start: 14 @45854 has 68 MA's), (16, 45872),

Gene: Byougenkin\_87 Start: 48434, Stop: 48589, Start Num: 11  
Candidate Starts for Byougenkin\_87:  
(Start: 11 @48434 has 12 MA's), (Start: 15 @48452 has 124 MA's),

Gene: Cabrinians\_84 Start: 49865, Stop: 50002, Start Num: 15  
Candidate Starts for Cabrinians\_84:  
(Start: 11 @49847 has 12 MA's), (Start: 15 @49865 has 124 MA's),

Gene: CaptainTrips\_91 Start: 51151, Stop: 51291, Start Num: 14  
Candidate Starts for CaptainTrips\_91:  
(Start: 14 @51151 has 68 MA's),

Gene: Cerasum\_84 Start: 47159, Stop: 47296, Start Num: 15  
Candidate Starts for Cerasum\_84:  
(Start: 15 @47159 has 124 MA's),

Gene: Che8\_96 Start: 52401, Stop: 52538, Start Num: 15  
Candidate Starts for Che8\_96:  
(Start: 11 @52383 has 12 MA's), (Start: 15 @52401 has 124 MA's), (17, 52494),

Gene: Che9d\_99 Start: 50613, Stop: 50753, Start Num: 14  
Candidate Starts for Che9d\_99:  
(Start: 14 @50613 has 68 MA's), (16, 50631),

Gene: Chevrolet\_93 Start: 51735, Stop: 51875, Start Num: 14  
Candidate Starts for Chevrolet\_93:  
(6, 51675), (Start: 14 @51735 has 68 MA's), (16, 51753),

Gene: Chuckly\_81 Start: 46984, Stop: 47121, Start Num: 15



Candidate Starts for Chuckly\_81:  
(Start: 11 @46966 has 12 MA's), (Start: 15 @46984 has 124 MA's),

Gene: Clifton\_80 Start: 49034, Stop: 49174, Start Num: 14  
Candidate Starts for Clifton\_80:  
(Start: 14 @49034 has 68 MA's),

Gene: Coco12\_87 Start: 51216, Stop: 51353, Start Num: 15  
Candidate Starts for Coco12\_87:  
(Start: 15 @51216 has 124 MA's),

Gene: Constella\_60 Start: 45130, Stop: 44993, Start Num: 15  
Candidate Starts for Constella\_60:  
(Start: 15 @45130 has 124 MA's),

Gene: Cornucopia\_89 Start: 49388, Stop: 49528, Start Num: 14  
Candidate Starts for Cornucopia\_89:  
(Start: 14 @49388 has 68 MA's),

Gene: Crumble\_83 Start: 46590, Stop: 46727, Start Num: 15  
Candidate Starts for Crumble\_83:  
(Start: 11 @46572 has 12 MA's), (Start: 15 @46590 has 124 MA's),

Gene: DLane\_88 Start: 51845, Stop: 51982, Start Num: 15  
Candidate Starts for DLane\_88:  
(Start: 11 @51827 has 12 MA's), (Start: 15 @51845 has 124 MA's),

Gene: DRBy19\_91 Start: 52573, Stop: 52710, Start Num: 15  
Candidate Starts for DRBy19\_91:  
(Start: 11 @52555 has 12 MA's), (Start: 15 @52573 has 124 MA's),

Gene: DaWorst\_88 Start: 50158, Stop: 50295, Start Num: 15  
Candidate Starts for DaWorst\_88:  
(Start: 15 @50158 has 124 MA's),

Gene: DaddyRickover\_92 Start: 52080, Stop: 52217, Start Num: 15  
Candidate Starts for DaddyRickover\_92:  
(Start: 11 @52062 has 12 MA's), (Start: 15 @52080 has 124 MA's),

Gene: Dante\_87 Start: 52413, Stop: 52553, Start Num: 14  
Candidate Starts for Dante\_87:  
(Start: 14 @52413 has 68 MA's), (16, 52431),

Gene: DeadP\_91 Start: 50240, Stop: 50377, Start Num: 15  
Candidate Starts for DeadP\_91:  
(Start: 15 @50240 has 124 MA's),

Gene: Deb65\_82 Start: 49968, Stop: 50105, Start Num: 15  
Candidate Starts for Deb65\_82:  
(10, 49929), (Start: 15 @49968 has 124 MA's),

Gene: DillTech15\_93 Start: 50355, Stop: 50492, Start Num: 15  
Candidate Starts for DillTech15\_93:

(10, 50316), (Start: 15 @50355 has 124 MA's),

Gene: DirtMcgirt\_88 Start: 48217, Stop: 48354, Start Num: 15

Candidate Starts for DirtMcgirt\_88:

(Start: 11 @48199 has 12 MA's), (Start: 15 @48217 has 124 MA's),

Gene: DoRead\_95 Start: 49571, Stop: 49711, Start Num: 14

Candidate Starts for DoRead\_95:

(Start: 14 @49571 has 68 MA's), (16, 49589),

Gene: Donkeykong\_95 Start: 53158, Stop: 53295, Start Num: 15

Candidate Starts for Donkeykong\_95:

(Start: 11 @53140 has 12 MA's), (Start: 15 @53158 has 124 MA's),

Gene: Dorothy\_89 Start: 52728, Stop: 52865, Start Num: 15

Candidate Starts for Dorothy\_89:

(Start: 15 @52728 has 124 MA's),

Gene: DotProduct\_83 Start: 48747, Stop: 48884, Start Num: 15

Candidate Starts for DotProduct\_83:

(Start: 11 @48729 has 12 MA's), (Start: 15 @48747 has 124 MA's),

Gene: Doug\_86 Start: 51746, Stop: 51886, Start Num: 14

Candidate Starts for Doug\_86:

(5, 51653), (6, 51686), (Start: 14 @51746 has 68 MA's), (16, 51764),

Gene: Drago\_86 Start: 48220, Stop: 48357, Start Num: 15

Candidate Starts for Drago\_86:

(Start: 11 @48202 has 12 MA's), (Start: 15 @48220 has 124 MA's),

Gene: Duke13\_76 Start: 50679, Stop: 50539, Start Num: 14

Candidate Starts for Duke13\_76:

(Start: 14 @50679 has 68 MA's), (16, 50661),

Gene: Eish\_94 Start: 52253, Stop: 52408, Start Num: 11

Candidate Starts for Eish\_94:

(Start: 11 @52253 has 12 MA's), (Start: 15 @52271 has 124 MA's),

Gene: EleanorGeorge\_90 Start: 51928, Stop: 52065, Start Num: 15

Candidate Starts for EleanorGeorge\_90:

(Start: 15 @51928 has 124 MA's),

Gene: Emma\_92 Start: 49966, Stop: 50106, Start Num: 14

Candidate Starts for Emma\_92:

(Start: 14 @49966 has 68 MA's),

Gene: Enby\_90 Start: 48496, Stop: 48633, Start Num: 15

Candidate Starts for Enby\_90:

(Start: 11 @48478 has 12 MA's), (Start: 15 @48496 has 124 MA's),

Gene: Eradicator\_81 Start: 49148, Stop: 49288, Start Num: 14

Candidate Starts for Eradicator\_81:

(Start: 14 @49148 has 68 MA's),

Gene: Estave1\_97 Start: 54757, Stop: 54897, Start Num: 14

Candidate Starts for Estave1\_97:

(Start: 14 @54757 has 68 MA's), (16, 54775),

Gene: Fancypants\_94 Start: 53203, Stop: 53343, Start Num: 14

Candidate Starts for Fancypants\_94:

(Start: 11 @53188 has 12 MA's), (Start: 14 @53203 has 68 MA's), (16, 53221),

Gene: Fastidio\_90 Start: 48250, Stop: 48387, Start Num: 15

Candidate Starts for Fastidio\_90:

(10, 48211), (Start: 15 @48250 has 124 MA's),

Gene: Filuzino\_90 Start: 53154, Stop: 53291, Start Num: 15

Candidate Starts for Filuzino\_90:

(Start: 15 @53154 has 124 MA's),

Gene: Firehouse51\_84 Start: 51782, Stop: 51922, Start Num: 14

Candidate Starts for Firehouse51\_84:

(Start: 14 @51782 has 68 MA's),

Gene: Flathead\_91 Start: 51085, Stop: 51240, Start Num: 11

Candidate Starts for Flathead\_91:

(Start: 11 @51085 has 12 MA's), (Start: 15 @51103 has 124 MA's),

Gene: Florinda\_99 Start: 52657, Stop: 52794, Start Num: 15

Candidate Starts for Florinda\_99:

(Start: 11 @52639 has 12 MA's), (Start: 15 @52657 has 124 MA's),

Gene: FreddyB\_96 Start: 51512, Stop: 51649, Start Num: 15

Candidate Starts for FreddyB\_96:

(Start: 11 @51494 has 12 MA's), (Start: 15 @51512 has 124 MA's),

Gene: GUmbie\_87 Start: 50971, Stop: 51108, Start Num: 15

Candidate Starts for GUmbie\_87:

(Start: 15 @50971 has 124 MA's), (17, 51064),

Gene: Galactic\_89 Start: 50522, Stop: 50662, Start Num: 14

Candidate Starts for Galactic\_89:

(Start: 14 @50522 has 68 MA's), (16, 50540),

Gene: Gandalph\_88 Start: 48281, Stop: 48421, Start Num: 14

Candidate Starts for Gandalph\_88:

(5, 48188), (6, 48221), (Start: 14 @48281 has 68 MA's), (16, 48299),

Gene: Geralt\_82 Start: 49966, Stop: 50103, Start Num: 15

Candidate Starts for Geralt\_82:

(10, 49927), (Start: 15 @49966 has 124 MA's),

Gene: GigiOuiOui\_84 Start: 50090, Stop: 50230, Start Num: 14

Candidate Starts for GigiOuiOui\_84:

(Start: 14 @50090 has 68 MA's), (16, 50108),

Gene: Girafales\_96 Start: 52262, Stop: 52399, Start Num: 15  
Candidate Starts for Girafales\_96:  
(Start: 11 @52244 has 12 MA's), (Start: 15 @52262 has 124 MA's),

Gene: Girr\_87 Start: 51363, Stop: 51500, Start Num: 15  
Candidate Starts for Girr\_87:  
(10, 51324), (Start: 15 @51363 has 124 MA's),

Gene: Gorge\_86 Start: 51139, Stop: 51276, Start Num: 15  
Candidate Starts for Gorge\_86:  
(Start: 11 @51121 has 12 MA's), (Start: 15 @51139 has 124 MA's),

Gene: Guppsters\_82 Start: 48196, Stop: 48333, Start Num: 15  
Candidate Starts for Guppsters\_82:  
(Start: 11 @48178 has 12 MA's), (Start: 15 @48196 has 124 MA's),

Gene: Hades\_87 Start: 48668, Stop: 48823, Start Num: 11  
Candidate Starts for Hades\_87:  
(Start: 11 @48668 has 12 MA's), (Start: 15 @48686 has 124 MA's),

Gene: Hamulus\_89 Start: 50612, Stop: 50749, Start Num: 15  
Candidate Starts for Hamulus\_89:  
(Start: 11 @50594 has 12 MA's), (Start: 15 @50612 has 124 MA's),

Gene: Harley\_93 Start: 51949, Stop: 52086, Start Num: 15  
Candidate Starts for Harley\_93:  
(Start: 11 @51931 has 12 MA's), (Start: 15 @51949 has 124 MA's),

Gene: Hegedechwinu\_89 Start: 49621, Stop: 49761, Start Num: 14  
Candidate Starts for Hegedechwinu\_89:  
(Start: 14 @49621 has 68 MA's),

Gene: Hegedechwinu\_97 Start: 51655, Stop: 51798, Start Num: 14  
Candidate Starts for Hegedechwinu\_97:  
(Start: 14 @51655 has 68 MA's), (16, 51673), (17, 51751),

Gene: Hlubikazi\_86 Start: 48806, Stop: 48943, Start Num: 15  
Candidate Starts for Hlubikazi\_86:  
(Start: 15 @48806 has 124 MA's),

Gene: IMpilo\_83 Start: 48530, Stop: 48667, Start Num: 15  
Candidate Starts for IMpilo\_83:  
(Start: 11 @48512 has 12 MA's), (Start: 15 @48530 has 124 MA's),

Gene: IbOuu\_85 Start: 48940, Stop: 49080, Start Num: 14  
Candidate Starts for IbOuu\_85:  
(Start: 14 @48940 has 68 MA's), (16, 48958),

Gene: Ibhubesi\_87 Start: 48994, Stop: 49134, Start Num: 14  
Candidate Starts for Ibhubesi\_87:  
(Start: 14 @48994 has 68 MA's), (16, 49012),

Gene: Inventum\_86 Start: 50913, Stop: 51050, Start Num: 15

Candidate Starts for Inventum\_86:  
(Start: 15 @50913 has 124 MA's),

Gene: IrishSherpFalk\_89 Start: 51733, Stop: 51870, Start Num: 15  
Candidate Starts for IrishSherpFalk\_89:  
(Start: 15 @51733 has 124 MA's), (17, 51826),

Gene: Jabbawokkie\_96 Start: 49089, Stop: 49226, Start Num: 15  
Candidate Starts for Jabbawokkie\_96:  
(Start: 15 @49089 has 124 MA's),

Gene: JalFarm20\_96 Start: 51753, Stop: 51890, Start Num: 15  
Candidate Starts for JalFarm20\_96:  
(Start: 11 @51735 has 12 MA's), (Start: 15 @51753 has 124 MA's),

Gene: James\_91 Start: 52662, Stop: 52799, Start Num: 15  
Candidate Starts for James\_91:  
(Start: 15 @52662 has 124 MA's),

Gene: Jarcob\_90 Start: 52261, Stop: 52398, Start Num: 15  
Candidate Starts for Jarcob\_90:  
(Start: 15 @52261 has 124 MA's),

Gene: Jinglebell\_96 Start: 52218, Stop: 52358, Start Num: 14  
Candidate Starts for Jinglebell\_96:  
(Start: 11 @52203 has 12 MA's), (Start: 14 @52218 has 68 MA's),

Gene: Job42\_89 Start: 53454, Stop: 53594, Start Num: 14  
Candidate Starts for Job42\_89:  
(Start: 14 @53454 has 68 MA's), (16, 53472),

Gene: Juice456\_88 Start: 50872, Stop: 51009, Start Num: 15  
Candidate Starts for Juice456\_88:  
(10, 50833), (Start: 15 @50872 has 124 MA's),

Gene: Karhdo\_85 Start: 48772, Stop: 48909, Start Num: 15  
Candidate Starts for Karhdo\_85:  
(Start: 15 @48772 has 124 MA's),

Gene: Kenuha5\_84 Start: 51203, Stop: 51340, Start Num: 15  
Candidate Starts for Kenuha5\_84:  
(Start: 11 @51185 has 12 MA's), (Start: 15 @51203 has 124 MA's),

Gene: Kersh\_93 Start: 53643, Stop: 53783, Start Num: 14  
Candidate Starts for Kersh\_93:  
(Start: 14 @53643 has 68 MA's), (16, 53661),

Gene: Kimberlium\_92 Start: 50972, Stop: 51109, Start Num: 15  
Candidate Starts for Kimberlium\_92:  
(10, 50933), (Start: 15 @50972 has 124 MA's),

Gene: Kingsley\_94 Start: 53823, Stop: 53960, Start Num: 15  
Candidate Starts for Kingsley\_94:

(Start: 15 @53823 has 124 MA's),

Gene: Koella\_80 Start: 47348, Stop: 47491, Start Num: 14

Candidate Starts for Koella\_80:

(Start: 14 @47348 has 68 MA's), (16, 47366), (17, 47444),

Gene: Krakatau\_82 Start: 46771, Stop: 46908, Start Num: 15

Candidate Starts for Krakatau\_82:

(Start: 15 @46771 has 124 MA's), (17, 46864),

Gene: KristaRAM\_89 Start: 50559, Stop: 50696, Start Num: 15

Candidate Starts for KristaRAM\_89:

(Start: 15 @50559 has 124 MA's),

Gene: LastJedi\_78 Start: 48339, Stop: 48476, Start Num: 15

Candidate Starts for LastJedi\_78:

(Start: 11 @48321 has 12 MA's), (Start: 15 @48339 has 124 MA's),

Gene: Leozinho\_87 Start: 48413, Stop: 48550, Start Num: 15

Candidate Starts for Leozinho\_87:

(10, 48374), (Start: 15 @48413 has 124 MA's),

Gene: Leperchaun\_90 Start: 52055, Stop: 52192, Start Num: 15

Candidate Starts for Leperchaun\_90:

(Start: 15 @52055 has 124 MA's),

Gene: LilMoolah\_89 Start: 51545, Stop: 51682, Start Num: 15

Candidate Starts for LilMoolah\_89:

(Start: 15 @51545 has 124 MA's),

Gene: LittleShirley\_94 Start: 51526, Stop: 51663, Start Num: 15

Candidate Starts for LittleShirley\_94:

(10, 51487), (Start: 15 @51526 has 124 MA's),

Gene: Lizziana\_89 Start: 51588, Stop: 51725, Start Num: 15

Candidate Starts for Lizziana\_89:

(Start: 11 @51570 has 12 MA's), (Start: 15 @51588 has 124 MA's),

Gene: Llama\_96 Start: 52074, Stop: 52214, Start Num: 14

Candidate Starts for Llama\_96:

(Start: 11 @52059 has 12 MA's), (Start: 14 @52074 has 68 MA's),

Gene: Llij\_86 Start: 49936, Stop: 50076, Start Num: 14

Candidate Starts for Llij\_86:

(Start: 14 @49936 has 68 MA's), (16, 49954),

Gene: Lorde\_89 Start: 47661, Stop: 47798, Start Num: 15

Candidate Starts for Lorde\_89:

(Start: 11 @47643 has 12 MA's), (Start: 15 @47661 has 124 MA's),

Gene: LunaBlu\_92 Start: 51846, Stop: 51986, Start Num: 14

Candidate Starts for LunaBlu\_92:

(Start: 14 @51846 has 68 MA's), (16, 51864),

Gene: LunaStella\_84 Start: 49395, Stop: 49535, Start Num: 14

Candidate Starts for LunaStella\_84:

(Start: 14 @49395 has 68 MA's), (16, 49413),

Gene: MadMen\_94 Start: 51500, Stop: 51643, Start Num: 14

Candidate Starts for MadMen\_94:

(5, 51407), (6, 51440), (Start: 14 @51500 has 68 MA's), (16, 51518), (17, 51596),

Gene: Madiba\_89 Start: 50789, Stop: 50926, Start Num: 15

Candidate Starts for Madiba\_89:

(Start: 11 @50771 has 12 MA's), (Start: 15 @50789 has 124 MA's),

Gene: Mandlovu\_86 Start: 48748, Stop: 48885, Start Num: 15

Candidate Starts for Mandlovu\_86:

(Start: 15 @48748 has 124 MA's),

Gene: Mantra\_87 Start: 50935, Stop: 51072, Start Num: 15

Candidate Starts for Mantra\_87:

(10, 50896), (Start: 15 @50935 has 124 MA's),

Gene: Maravista\_85 Start: 52196, Stop: 52333, Start Num: 15

Candidate Starts for Maravista\_85:

(Start: 11 @52178 has 12 MA's), (Start: 15 @52196 has 124 MA's),

Gene: Martik\_85 Start: 51865, Stop: 52005, Start Num: 14

Candidate Starts for Martik\_85:

(Start: 14 @51865 has 68 MA's), (16, 51883),

Gene: Mattes\_87 Start: 51394, Stop: 51531, Start Num: 15

Candidate Starts for Mattes\_87:

(Start: 15 @51394 has 124 MA's), (17, 51487),

Gene: MilanaBonita\_83 Start: 49522, Stop: 49662, Start Num: 14

Candidate Starts for MilanaBonita\_83:

(Start: 14 @49522 has 68 MA's), (16, 49540),

Gene: MilleniumForce\_89 Start: 51490, Stop: 51627, Start Num: 15

Candidate Starts for MilleniumForce\_89:

(Start: 11 @51472 has 12 MA's), (Start: 15 @51490 has 124 MA's),

Gene: MinionDave\_87 Start: 51154, Stop: 51291, Start Num: 15

Candidate Starts for MinionDave\_87:

(Start: 11 @51136 has 12 MA's), (Start: 15 @51154 has 124 MA's),

Gene: MisterCuddles\_88 Start: 51363, Stop: 51500, Start Num: 15

Candidate Starts for MisterCuddles\_88:

(10, 51324), (Start: 15 @51363 has 124 MA's),

Gene: Modragons\_94 Start: 52062, Stop: 52202, Start Num: 14

Candidate Starts for Modragons\_94:

(Start: 11 @52047 has 12 MA's), (Start: 14 @52062 has 68 MA's),

Gene: Moonbeam\_91 Start: 51835, Stop: 51978, Start Num: 14  
Candidate Starts for Moonbeam\_91:  
(Start: 11 @51820 has 12 MA's), (Start: 14 @51835 has 68 MA's), (16, 51853), (17, 51931),

Gene: Mova\_92 Start: 51328, Stop: 51465, Start Num: 15  
Candidate Starts for Mova\_92:  
(Start: 11 @51310 has 12 MA's), (Start: 15 @51328 has 124 MA's),

Gene: Mozy\_96 Start: 51099, Stop: 51236, Start Num: 15  
Candidate Starts for Mozy\_96:  
(Start: 15 @51099 has 124 MA's),

Gene: Ms6\_90 Start: 47659, Stop: 47796, Start Num: 15  
Candidate Starts for Ms6\_90:  
(Start: 11 @47641 has 12 MA's), (Start: 15 @47659 has 124 MA's),

Gene: MulchExplorer\_94 Start: 50643, Stop: 50780, Start Num: 15  
Candidate Starts for MulchExplorer\_94:  
(10, 50604), (Start: 15 @50643 has 124 MA's),

Gene: Mutaforma13\_91 Start: 50625, Stop: 50765, Start Num: 14  
Candidate Starts for Mutaforma13\_91:  
(Start: 14 @50625 has 68 MA's),

Gene: Nimbo\_81 Start: 49968, Stop: 50105, Start Num: 15  
Candidate Starts for Nimbo\_81:  
(10, 49929), (Start: 15 @49968 has 124 MA's),

Gene: Nitzel\_83 Start: 48059, Stop: 48196, Start Num: 15  
Candidate Starts for Nitzel\_83:  
(Start: 11 @48041 has 12 MA's), (Start: 15 @48059 has 124 MA's),

Gene: Nivrat\_87 Start: 51418, Stop: 51555, Start Num: 15  
Candidate Starts for Nivrat\_87:  
(Start: 15 @51418 has 124 MA's),

Gene: NormanBulbieJr\_86 Start: 51362, Stop: 51505, Start Num: 14  
Candidate Starts for NormanBulbieJr\_86:  
(Start: 14 @51362 has 68 MA's), (16, 51380), (17, 51458),

Gene: Ochi17\_95 Start: 51669, Stop: 51809, Start Num: 14  
Candidate Starts for Ochi17\_95:  
(Start: 11 @51654 has 12 MA's), (Start: 14 @51669 has 68 MA's),

Gene: OfUltron\_97 Start: 52218, Stop: 52358, Start Num: 14  
Candidate Starts for OfUltron\_97:  
(Start: 11 @52203 has 12 MA's), (Start: 14 @52218 has 68 MA's),

Gene: Ogopogo\_94 Start: 50684, Stop: 50824, Start Num: 14  
Candidate Starts for Ogopogo\_94:  
(Start: 14 @50684 has 68 MA's), (17, 50780),

Gene: Oksu\_92 Start: 52784, Stop: 52939, Start Num: 11



Candidate Starts for Oksu\_92:  
(Start: 11 @52784 has 12 MA's), (Start: 14 @52799 has 68 MA's),

Gene: OldBen\_86 Start: 51360, Stop: 51497, Start Num: 15  
Candidate Starts for OldBen\_86:  
(10, 51321), (Start: 15 @51360 has 124 MA's),

Gene: OlympiaSaint\_90 Start: 51604, Stop: 51741, Start Num: 15  
Candidate Starts for OlympiaSaint\_90:  
(Start: 15 @51604 has 124 MA's), (17, 51697),

Gene: Ovechkin\_94 Start: 52189, Stop: 52329, Start Num: 14  
Candidate Starts for Ovechkin\_94:  
(6, 52129), (Start: 14 @52189 has 68 MA's), (16, 52207),

Gene: OwlsT2W\_88 Start: 50027, Stop: 50167, Start Num: 14  
Candidate Starts for OwlsT2W\_88:  
(Start: 14 @50027 has 68 MA's),

Gene: PHappiness\_89 Start: 52189, Stop: 52326, Start Num: 15  
Candidate Starts for PHappiness\_89:  
(10, 52150), (Start: 15 @52189 has 124 MA's),

Gene: PMC\_86 Start: 49831, Stop: 49968, Start Num: 15  
Candidate Starts for PMC\_86:  
(Start: 11 @49813 has 12 MA's), (Start: 15 @49831 has 124 MA's),

Gene: Pacc40\_85 Start: 51781, Stop: 51921, Start Num: 14  
Candidate Starts for Pacc40\_85:  
(Start: 14 @51781 has 68 MA's), (17, 51877),

Gene: Phalconet\_87 Start: 50160, Stop: 50297, Start Num: 15  
Candidate Starts for Phalconet\_87:  
(Start: 11 @50142 has 12 MA's), (Start: 15 @50160 has 124 MA's),

Gene: Phanphagia\_91 Start: 52062, Stop: 52199, Start Num: 15  
Candidate Starts for Phanphagia\_91:  
(Start: 15 @52062 has 124 MA's),

Gene: Phasih\_85 Start: 49545, Stop: 49685, Start Num: 14  
Candidate Starts for Phasih\_85:  
(6, 49485), (Start: 14 @49545 has 68 MA's),

Gene: Phatniss\_86 Start: 50222, Stop: 50359, Start Num: 15  
Candidate Starts for Phatniss\_86:  
(Start: 15 @50222 has 124 MA's),

Gene: PhesterPhotato\_93 Start: 51035, Stop: 51172, Start Num: 15  
Candidate Starts for PhesterPhotato\_93:  
(Start: 11 @51017 has 12 MA's), (Start: 15 @51035 has 124 MA's),

Gene: Philus\_90 Start: 52549, Stop: 52686, Start Num: 15  
Candidate Starts for Philus\_90:

(Start: 11 @52531 has 12 MA's), (Start: 15 @52549 has 124 MA's),

Gene: Pippy\_83 Start: 49248, Stop: 49385, Start Num: 15

Candidate Starts for Pippy\_83:

(Start: 11 @49230 has 12 MA's), (Start: 15 @49248 has 124 MA's),

Gene: Plumbus\_89 Start: 48406, Stop: 48543, Start Num: 15

Candidate Starts for Plumbus\_89:

(Start: 15 @48406 has 124 MA's),

Gene: Pollywog\_90 Start: 52290, Stop: 52430, Start Num: 14

Candidate Starts for Pollywog\_90:

(Start: 11 @52275 has 12 MA's), (Start: 14 @52290 has 68 MA's), (16, 52308),

Gene: PopTart\_81 Start: 48055, Stop: 48192, Start Num: 15

Candidate Starts for PopTart\_81:

(8, 47998), (Start: 15 @48055 has 124 MA's),

Gene: Priscilla\_88 Start: 51460, Stop: 51603, Start Num: 14

Candidate Starts for Priscilla\_88:

(Start: 14 @51460 has 68 MA's), (16, 51478), (17, 51556),

Gene: QuickMath\_90 Start: 51224, Stop: 51361, Start Num: 15

Candidate Starts for QuickMath\_90:

(10, 51185), (Start: 15 @51224 has 124 MA's),

Gene: Quico\_96 Start: 52459, Stop: 52614, Start Num: 11

Candidate Starts for Quico\_96:

(Start: 11 @52459 has 12 MA's), (Start: 15 @52477 has 124 MA's),

Gene: Radiance\_85 Start: 50579, Stop: 50716, Start Num: 15

Candidate Starts for Radiance\_85:

(Start: 15 @50579 has 124 MA's),

Gene: Ramsey\_93 Start: 52715, Stop: 52852, Start Num: 15

Candidate Starts for Ramsey\_93:

(Start: 11 @52697 has 12 MA's), (Start: 15 @52715 has 124 MA's),

Gene: RedBird\_90 Start: 52598, Stop: 52735, Start Num: 15

Candidate Starts for RedBird\_90:

(Start: 15 @52598 has 124 MA's),

Gene: Renaud18\_97 Start: 51491, Stop: 51631, Start Num: 14

Candidate Starts for Renaud18\_97:

(Start: 14 @51491 has 68 MA's),

Gene: Rialto\_94 Start: 51931, Stop: 52074, Start Num: 14

Candidate Starts for Rialto\_94:

(Start: 11 @51916 has 12 MA's), (Start: 14 @51931 has 68 MA's), (16, 51949), (17, 52027),

Gene: RitaG\_89 Start: 51991, Stop: 52128, Start Num: 15

Candidate Starts for RitaG\_89:

(10, 51952), (Start: 15 @51991 has 124 MA's),

Gene: Rockne\_90 Start: 49843, Stop: 49980, Start Num: 15  
Candidate Starts for Rockne\_90:  
(Start: 11 @49825 has 12 MA's), (Start: 15 @49843 has 124 MA's),

Gene: Royals2015\_94 Start: 50529, Stop: 50669, Start Num: 14  
Candidate Starts for Royals2015\_94:  
(Start: 14 @50529 has 68 MA's), (16, 50547),

Gene: Ruby\_85 Start: 51364, Stop: 51501, Start Num: 15  
Candidate Starts for Ruby\_85:  
(10, 51325), (Start: 15 @51364 has 124 MA's),

Gene: SG4\_91 Start: 52200, Stop: 52337, Start Num: 15  
Candidate Starts for SG4\_91:  
(Start: 15 @52200 has 124 MA's),

Gene: STLscum\_66 Start: 42108, Stop: 41968, Start Num: 14  
Candidate Starts for STLscum\_66:  
(Start: 11 @42123 has 12 MA's), (Start: 14 @42108 has 68 MA's), (16, 42090),

Gene: Saal\_84 Start: 50959, Stop: 51096, Start Num: 15  
Candidate Starts for Saal\_84:  
(Start: 11 @50941 has 12 MA's), (Start: 15 @50959 has 124 MA's),

Gene: Sabbb\_93 Start: 49661, Stop: 49801, Start Num: 14  
Candidate Starts for Sabbb\_93:  
(Start: 14 @49661 has 68 MA's), (16, 49679),

Gene: Sarma624\_89 Start: 47835, Stop: 47972, Start Num: 15  
Candidate Starts for Sarma624\_89:  
(Start: 15 @47835 has 124 MA's),

Gene: Sassafras\_90 Start: 50912, Stop: 51049, Start Num: 15  
Candidate Starts for Sassafras\_90:  
(Start: 15 @50912 has 124 MA's),

Gene: SassyB\_81 Start: 48055, Stop: 48192, Start Num: 15  
Candidate Starts for SassyB\_81:  
(8, 47998), (Start: 15 @48055 has 124 MA's),

Gene: Seabastian\_97 Start: 52219, Stop: 52359, Start Num: 14  
Candidate Starts for Seabastian\_97:  
(Start: 11 @52204 has 12 MA's), (Start: 14 @52219 has 68 MA's),

Gene: Seagreen\_89 Start: 51527, Stop: 51667, Start Num: 14  
Candidate Starts for Seagreen\_89:  
(6, 51467), (Start: 14 @51527 has 68 MA's), (16, 51545),

Gene: Shauna1\_88 Start: 51678, Stop: 51815, Start Num: 15  
Candidate Starts for Shauna1\_88:  
(Start: 15 @51678 has 124 MA's),

Gene: ShiLan\_90 Start: 53117, Stop: 53254, Start Num: 15  
Candidate Starts for ShiLan\_90:  
(Start: 15 @53117 has 124 MA's), (17, 53210),

Gene: ShowerHandel\_86 Start: 49792, Stop: 49932, Start Num: 14  
Candidate Starts for ShowerHandel\_86:  
(Start: 14 @49792 has 68 MA's), (16, 49810),

Gene: ShroomBoi\_87 Start: 50625, Stop: 50762, Start Num: 15  
Candidate Starts for ShroomBoi\_87:  
(Start: 15 @50625 has 124 MA's), (17, 50718),

Gene: SiSi\_86 Start: 50460, Stop: 50597, Start Num: 15  
Candidate Starts for SiSi\_86:  
(10, 50421), (Start: 15 @50460 has 124 MA's),

Gene: Soul22\_89 Start: 48859, Stop: 49014, Start Num: 11  
Candidate Starts for Soul22\_89:  
(Start: 11 @48859 has 12 MA's), (Start: 15 @48877 has 124 MA's),

Gene: Sparkdehlily\_97 Start: 50202, Stop: 50345, Start Num: 14  
Candidate Starts for Sparkdehlily\_97:  
(Start: 11 @50187 has 12 MA's), (Start: 14 @50202 has 68 MA's), (16, 50220), (17, 50298),

Gene: Spartacus\_95 Start: 53498, Stop: 53638, Start Num: 14  
Candidate Starts for Spartacus\_95:  
(Start: 14 @53498 has 68 MA's),

Gene: Spoonbill\_86 Start: 49030, Stop: 49167, Start Num: 15  
Candidate Starts for Spoonbill\_86:  
(Start: 15 @49030 has 124 MA's), (17, 49123),

Gene: Squirty\_89 Start: 54845, Stop: 54982, Start Num: 15  
Candidate Starts for Squirty\_89:  
(Start: 15 @54845 has 124 MA's),

Gene: StAnnes\_93 Start: 52543, Stop: 52680, Start Num: 15  
Candidate Starts for StAnnes\_93:  
(Start: 11 @52525 has 12 MA's), (Start: 15 @52543 has 124 MA's),

Gene: Stap\_85 Start: 48560, Stop: 48697, Start Num: 15  
Candidate Starts for Stap\_85:  
(Start: 15 @48560 has 124 MA's),

Gene: Starcevich\_89 Start: 52046, Stop: 52186, Start Num: 14  
Candidate Starts for Starcevich\_89:  
(Start: 14 @52046 has 68 MA's), (16, 52064),

Gene: Strokeseat\_86 Start: 48805, Stop: 48942, Start Num: 15  
Candidate Starts for Strokeseat\_86:  
(Start: 15 @48805 has 124 MA's),

Gene: SuperGrey\_89 Start: 53029, Stop: 53169, Start Num: 14

Candidate Starts for SuperGrey\_89:  
(5, 52936), (6, 52969), (Start: 14 @53029 has 68 MA's),

Gene: SwagPiggett\_89 Start: 52095, Stop: 52232, Start Num: 15  
Candidate Starts for SwagPiggett\_89:  
(Start: 11 @52077 has 12 MA's), (Start: 15 @52095 has 124 MA's),

Gene: TChen\_86 Start: 51346, Stop: 51486, Start Num: 14  
Candidate Starts for TChen\_86:  
(Start: 14 @51346 has 68 MA's), (16, 51364),

Gene: TDanisky\_98 Start: 50202, Stop: 50345, Start Num: 14  
Candidate Starts for TDanisky\_98:  
(Start: 11 @50187 has 12 MA's), (Start: 14 @50202 has 68 MA's), (16, 50220), (17, 50298),

Gene: Taj\_97 Start: 53077, Stop: 53214, Start Num: 15  
Candidate Starts for Taj\_97:  
(Start: 15 @53077 has 124 MA's),

Gene: ThetaBob\_90 Start: 50151, Stop: 50300, Start Num: 11  
Candidate Starts for ThetaBob\_90:  
(Start: 11 @50151 has 12 MA's), (13, 50163), (Start: 14 @50166 has 68 MA's), (16, 50178),

Gene: Totinger\_90 Start: 50603, Stop: 50740, Start Num: 15  
Candidate Starts for Totinger\_90:  
(10, 50564), (Start: 15 @50603 has 124 MA's),

Gene: Tweety\_90 Start: 52127, Stop: 52264, Start Num: 15  
Candidate Starts for Tweety\_90:  
(Start: 11 @52109 has 12 MA's), (Start: 15 @52127 has 124 MA's),

Gene: UncleRicky\_88 Start: 49717, Stop: 49854, Start Num: 15  
Candidate Starts for UncleRicky\_88:  
(Start: 11 @49699 has 12 MA's), (Start: 15 @49717 has 124 MA's),

Gene: VRedHorse\_90 Start: 48904, Stop: 49041, Start Num: 15  
Candidate Starts for VRedHorse\_90:  
(Start: 15 @48904 has 124 MA's),

Gene: Velveteen\_84 Start: 47835, Stop: 47972, Start Num: 15  
Candidate Starts for Velveteen\_84:  
(Start: 15 @47835 has 124 MA's),

Gene: Veteran\_82 Start: 50328, Stop: 50465, Start Num: 15  
Candidate Starts for Veteran\_82:  
(10, 50289), (Start: 15 @50328 has 124 MA's),

Gene: Vivum\_92 Start: 53135, Stop: 53275, Start Num: 14  
Candidate Starts for Vivum\_92:  
(Start: 14 @53135 has 68 MA's), (16, 53153),

Gene: Wachhund\_86 Start: 48006, Stop: 48143, Start Num: 15  
Candidate Starts for Wachhund\_86:

(3, 47838), (4, 47850), (Start: 15 @48006 has 124 MA's),

Gene: Wee\_95 Start: 53153, Stop: 53290, Start Num: 15  
Candidate Starts for Wee\_95:  
(Start: 15 @53153 has 124 MA's),

Gene: Whatsapiecost\_81 Start: 45843, Stop: 45980, Start Num: 15  
Candidate Starts for Whatsapiecost\_81:  
(Start: 11 @45825 has 12 MA's), (Start: 15 @45843 has 124 MA's),

Gene: Whouxphf\_89 Start: 51343, Stop: 51480, Start Num: 15  
Candidate Starts for Whouxphf\_89:  
(Start: 15 @51343 has 124 MA's),

Gene: WillSterrel\_88 Start: 51766, Stop: 51903, Start Num: 15  
Candidate Starts for WillSterrel\_88:  
(Start: 15 @51766 has 124 MA's), (17, 51859),

Gene: XFactor\_81 Start: 49448, Stop: 49603, Start Num: 11  
Candidate Starts for XFactor\_81:  
(Start: 11 @49448 has 12 MA's), (Start: 15 @49466 has 124 MA's),

Gene: Yorick\_84 Start: 51666, Stop: 51845, Start Num: 9  
Candidate Starts for Yorick\_84:  
(1, 51360), (2, 51492), (7, 51639), (Start: 9 @51666 has 1 MA's), (12, 51690), (17, 51798),

Gene: Yorick\_81 Start: 50842, Stop: 50979, Start Num: 15  
Candidate Starts for Yorick\_81:  
(Start: 15 @50842 has 124 MA's),

Gene: Yoshi\_100 Start: 51536, Stop: 51667, Start Num: 11  
Candidate Starts for Yoshi\_100:  
(Start: 11 @51536 has 12 MA's), (13, 51548), (Start: 14 @51551 has 68 MA's), (16, 51563),

Gene: Zapner\_95 Start: 49183, Stop: 49320, Start Num: 15  
Candidate Starts for Zapner\_95:  
(Start: 15 @49183 has 124 MA's),

Gene: Zerg\_89 Start: 50783, Stop: 50923, Start Num: 14  
Candidate Starts for Zerg\_89:  
(Start: 14 @50783 has 68 MA's), (16, 50801),

Gene: Zizzle\_91 Start: 52235, Stop: 52372, Start Num: 15  
Candidate Starts for Zizzle\_91:  
(Start: 11 @52217 has 12 MA's), (Start: 15 @52235 has 124 MA's),