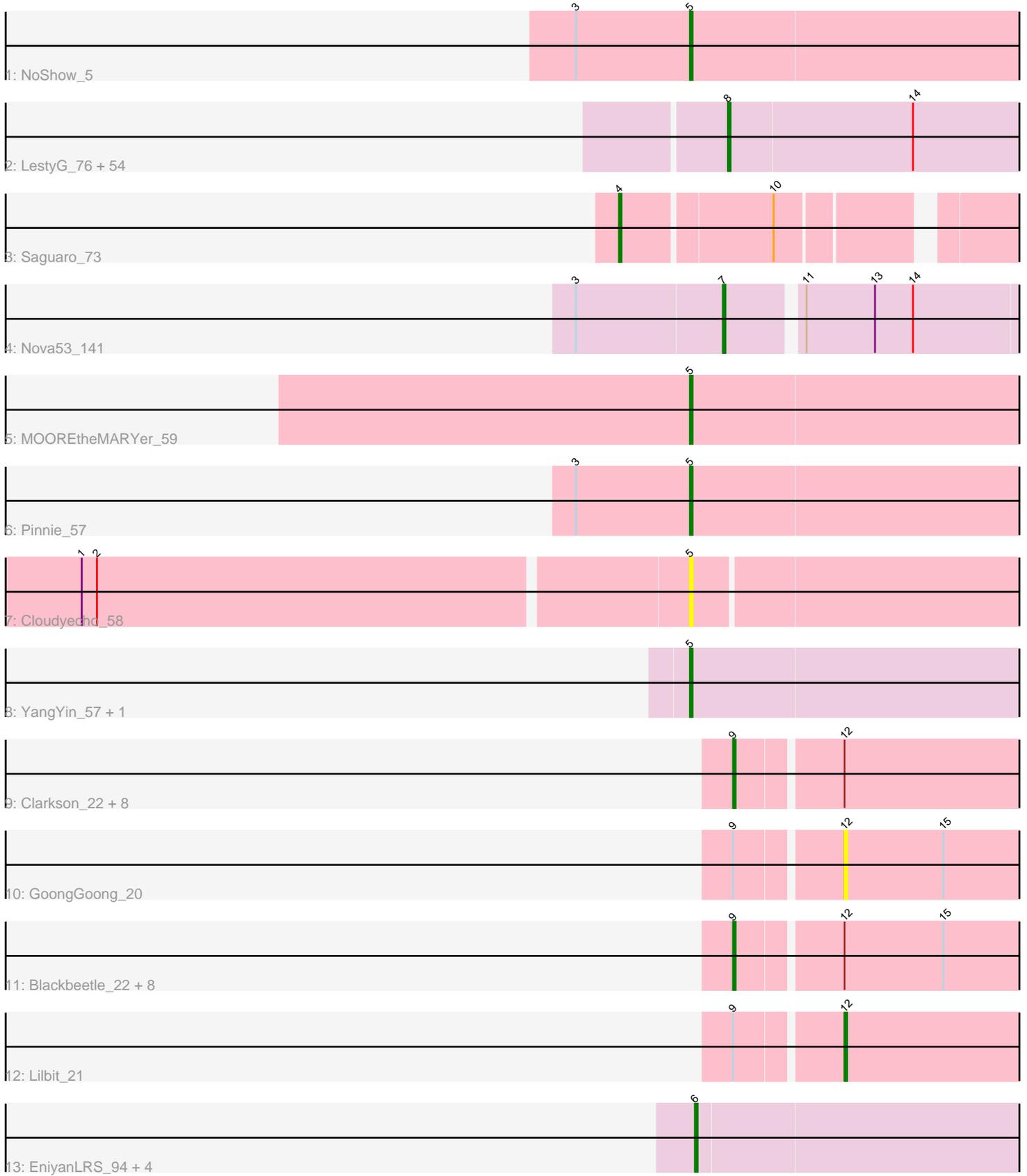


Pham 283699



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 283699 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283699 has 88 members, 9 are drafts.

Phages represented in each track:

- Track 1 : NoShow\_5
- Track 2 : LestyG\_76, Daisy\_77, TinyTerror\_79, Athena\_80, Phlyer\_78, Briakila\_78, Neos5\_78, Heathcliff\_78, Chandler\_78, Compostia\_77, Tydolla\_74, Gadget\_79, Jackstina\_73, Abinghost\_78, Deenasa\_78, Chalmers\_77, Philly\_77, Kronus\_78, ChaChing\_78, Olivio\_78, Marlia\_79, Yahalom\_76, Phayeta\_81, Chentzyk\_80, Bernardo\_79, MmasiCarm\_79, Yinz\_78, Mulaychimus\_79, Corofin\_78, Baloo\_77, Akoma\_78, Casbah\_78, RomaT\_78, Kamiyu\_78, Nozo\_78, Halfpint\_77, GlenHope\_79, Shenandoah\_77, Phaedrus\_73, RagingRooster\_77, Pipefish\_80, OrangeOswald\_78, Gervas\_79, Ben11\_78, SwainyDoc\_79, HarveySr\_77, Audrey\_78, Obutu\_80, Devonte\_77, Morty007\_77, Rita1961\_79, Marley1013\_79, Glubnar\_79, Mortcellus\_78, SynergyX\_78
- Track 3 : Saguaro\_73
- Track 4 : Nova53\_141
- Track 5 : MOOREtheMARYer\_59
- Track 6 : Pinnie\_57
- Track 7 : Cloudyecho\_58
- Track 8 : YangYin\_57, Stargaze\_57
- Track 9 : Clarkson\_22, LittleLaf\_21, Pringar\_21, VasuNzinga\_20, FeliMaine\_22, JoieB\_22, Beelzebub\_25, Marvin\_20, Corazon\_20
- Track 10 : GoongGoong\_20
- Track 11 : Blackbeetle\_22, Poise\_22, Huphlepuuff\_23, Gattaca\_21, Raela\_22, Tesla\_21, MosMoris\_20, Caprice\_18, RedRaider77\_22
- Track 12 : Lilbit\_21
- Track 13 : EniyanLRS\_94, Azrael100\_96, MaryV\_99, Cosmo\_97, Wildcat\_99

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

The start number called the most often in the published annotations is 8, it was called in 50 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost\_78, Akoma\_78, Athena\_80, Audrey\_78, Baloo\_77, Ben11\_78, Bernardo\_79, Briakila\_78, Casbah\_78, ChaChing\_78, Chalmers\_77, Chandler\_78, Chentzyk\_80, Compostia\_77, Corofin\_78, Daisy\_77, Deenasa\_78, Devonte\_77,

Gadget\_79, Gervas\_79, GlenHope\_79, Glubnar\_79, Halfpint\_77, HarveySr\_77, Heathcliff\_78, Jackstina\_73, Kamiyu\_78, Kronus\_78, LestyG\_76, Marley1013\_79, Marlia\_79, MmasiCarm\_79, Mortcellus\_78, Morty007\_77, Mulaychimus\_79, Neos5\_78, Nozo\_78, Obutu\_80, Olivio\_78, OrangeOswald\_78, Phaedrus\_73, Phayeta\_81, Philly\_77, Phlyer\_78, Pipefish\_80, RagingRooster\_77, Rita1961\_79, RomaT\_78, Shenandoah\_77, SwainyDoc\_79, SynergyX\_78, TinyTerror\_79, Tydolla\_74, Yahalom\_76, Yinz\_78,

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

- 

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

- Azrael100\_96, Beelzebub\_25, Blackbeetle\_22, Caprice\_18, Clarkson\_22, Cloudyecho\_58, Corazon\_20, Cosmo\_97, EniyanLRS\_94, FeliMaine\_22, Gattaca\_21, GoongGoong\_20, Huphlepuuff\_23, JoieB\_22, Lilbit\_21, LittleLaf\_21, MOOREtheMARYer\_59, Marvin\_20, MaryV\_99, MosMoris\_20, NoShow\_5, Nova53\_141, Pinnie\_57, Poise\_22, Pringar\_21, Raela\_22, RedRaider77\_22, Saguaro\_73, Stargaze\_57, Tesla\_21, VasuNzinga\_20, Wildcat\_99, YangYin\_57,

### Summary by start number:

Start 4:

- Found in 1 of 88 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Saguaro\_73 (B7),

Start 5:

- Found in 6 of 88 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 4 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cloudyecho\_58 (G3), MOOREtheMARYer\_59 (G3), NoShow\_5 (AB), Pinnie\_57 (G3), Stargaze\_57 (G5), YangYin\_57 (G5),

Start 6:

- Found in 5 of 88 ( 5.7% ) of genes in pham
- Manual Annotations of this start: 5 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azrael100\_96 (V), Cosmo\_97 (V), EniyanLRS\_94 (V), MaryV\_99 (V), Wildcat\_99 (V),

Start 7:

- Found in 1 of 88 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nova53\_141 (CG),

Start 8:

- Found in 55 of 88 ( 62.5% ) of genes in pham
- Manual Annotations of this start: 50 of 79
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Abinghost\_78 (B3), Akoma\_78 (B3), Athena\_80 (B3), Audrey\_78 (B3), Baloo\_77 (B3), Ben11\_78 (B3), Bernardo\_79 (B3), Briakila\_78 (B3), Casbah\_78 (B3), ChaChing\_78 (B3), Chalmers\_77 (B3), Chandler\_78 (B3), Chentzyk\_80 (B3), Compostia\_77 (B3), Corofin\_78 (B3), Daisy\_77 (B3), Deenasa\_78 (B3), Devonte\_77 (B3), Gadjet\_79 (B3), Gervas\_79 (B3), GlenHope\_79 (B3), Glubnar\_79 (B3), Halfpint\_77 (B3), HarveySr\_77 (B3), Heathcliff\_78 (B3), Jackstina\_73 (B3), Kamiyu\_78 (B3), Kronus\_78 (B3), LestyG\_76 (B3), Marley1013\_79 (B3), Marlia\_79 (B3), MmasiCarm\_79 (B3), Mortcellus\_78 (B3), Morty007\_77 (B3), Mulaychimus\_79 (B3), Neos5\_78 (B3), Nozo\_78 (B3), Obutu\_80 (B3), Olivio\_78 (B3), OrangeOswald\_78 (B3), Phaedrus\_73 (B3), Phayeta\_81 (B3), Philly\_77 (B3), Phlyer\_78 (B3), Pipefish\_80 (B3), RagingRooster\_77 (B3), Rita1961\_79 (B3), RomaT\_78 (B3), Shenandoah\_77 (B3), SwainyDoc\_79 (B3), SynergyX\_78 (B3), TinyTerror\_79 (B3), Tydolla\_74 (B3), Yahalom\_76 (B3), Yinz\_78 (B3),

Start 9:

- Found in 20 of 88 ( 22.7% ) of genes in pham
- Manual Annotations of this start: 17 of 79
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Beelzebub\_25 (S), Blackbeetle\_22 (S), Caprice\_18 (S), Clarkson\_22 (S), Corazon\_20 (S), FeliMaine\_22 (S), Gattaca\_21 (S), Huphlepuuff\_23 (S), JoieB\_22 (S), LittleLaf\_21 (S), Marvin\_20 (S), MosMoris\_20 (S), Poise\_22 (S), Pringar\_21 (S), Raela\_22 (S), RedRaider77\_22 (S), Tesla\_21 (S), VasuNzinga\_20 (S),

Start 12:

- Found in 20 of 88 ( 22.7% ) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 10.0% of time when present
- Phage (with cluster) where this start called: GoongGoong\_20 (S), Lilbit\_21 (S),

### Summary by clusters:

There are 8 clusters represented in this pham: G5, AB, G3, B3, CG, S, B7, V,

Info for manual annotations of cluster AB:

- Start number 5 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster B3:

- Start number 8 was manually annotated 50 times for cluster B3.

Info for manual annotations of cluster B7:

- Start number 4 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster CG:

- Start number 7 was manually annotated 1 time for cluster CG.

Info for manual annotations of cluster G3:

- Start number 5 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G5:

- Start number 5 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster S:

- Start number 9 was manually annotated 17 times for cluster S.
- Start number 12 was manually annotated 1 time for cluster S.

Info for manual annotations of cluster V:

- Start number 6 was manually annotated 5 times for cluster V.

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

Gene: Abinghost\_78 Start: 60573, Stop: 60385, Start Num: 8

Candidate Starts for Abinghost\_78:

(Start: 8 @60573 has 50 MA's), (14, 60501),

Gene: Akoma\_78 Start: 60613, Stop: 60425, Start Num: 8

Candidate Starts for Akoma\_78:

(Start: 8 @60613 has 50 MA's), (14, 60541),

Gene: Athena\_80 Start: 61348, Stop: 61160, Start Num: 8

Candidate Starts for Athena\_80:

(Start: 8 @61348 has 50 MA's), (14, 61276),

Gene: Audrey\_78 Start: 60602, Stop: 60414, Start Num: 8

Candidate Starts for Audrey\_78:

(Start: 8 @60602 has 50 MA's), (14, 60530),

Gene: Azrael100\_96 Start: 57539, Stop: 57703, Start Num: 6

Candidate Starts for Azrael100\_96:

(Start: 6 @57539 has 5 MA's),

Gene: Baloo\_77 Start: 60454, Stop: 60266, Start Num: 8

Candidate Starts for Baloo\_77:

(Start: 8 @60454 has 50 MA's), (14, 60382),

Gene: Beelzebub\_25 Start: 6549, Stop: 6704, Start Num: 9

Candidate Starts for Beelzebub\_25:

(Start: 9 @6549 has 17 MA's), (Start: 12 @6588 has 1 MA's),

Gene: Ben11\_78 Start: 60829, Stop: 60641, Start Num: 8

Candidate Starts for Ben11\_78:

(Start: 8 @60829 has 50 MA's), (14, 60757),

Gene: Bernardo\_79 Start: 60792, Stop: 60604, Start Num: 8

Candidate Starts for Bernardo\_79:

(Start: 8 @60792 has 50 MA's), (14, 60720),

Gene: Blackbeetle\_22 Start: 5882, Stop: 6037, Start Num: 9

Candidate Starts for Blackbeetle\_22:

(Start: 9 @5882 has 17 MA's), (Start: 12 @5921 has 1 MA's), (15, 5960),

Gene: Briakila\_78 Start: 60800, Stop: 60612, Start Num: 8

Candidate Starts for Briakila\_78:

(Start: 8 @60800 has 50 MA's), (14, 60728),

Gene: Caprice\_18 Start: 5113, Stop: 5268, Start Num: 9

Candidate Starts for Caprice\_18:

(Start: 9 @5113 has 17 MA's), (Start: 12 @5152 has 1 MA's), (15, 5191),

Gene: Casbah\_78 Start: 60913, Stop: 60725, Start Num: 8

Candidate Starts for Casbah\_78:

(Start: 8 @60913 has 50 MA's), (14, 60841),

Gene: ChaChing\_78 Start: 60618, Stop: 60430, Start Num: 8

Candidate Starts for ChaChing\_78:

(Start: 8 @60618 has 50 MA's), (14, 60546),

Gene: Chalmers\_77 Start: 61048, Stop: 60860, Start Num: 8

Candidate Starts for Chalmers\_77:

(Start: 8 @61048 has 50 MA's), (14, 60976),

Gene: Chandler\_78 Start: 61389, Stop: 61201, Start Num: 8

Candidate Starts for Chandler\_78:

(Start: 8 @61389 has 50 MA's), (14, 61317),

Gene: Chentzyk\_80 Start: 61556, Stop: 61368, Start Num: 8

Candidate Starts for Chentzyk\_80:

(Start: 8 @61556 has 50 MA's), (14, 61484),

Gene: Clarkson\_22 Start: 6250, Stop: 6405, Start Num: 9

Candidate Starts for Clarkson\_22:

(Start: 9 @6250 has 17 MA's), (Start: 12 @6289 has 1 MA's),

Gene: Cloudyecho\_58 Start: 41162, Stop: 41344, Start Num: 5

Candidate Starts for Cloudyecho\_58:

(1, 40928), (2, 40934), (Start: 5 @41162 has 4 MA's),

Gene: Compostia\_77 Start: 61058, Stop: 60870, Start Num: 8

Candidate Starts for Compostia\_77:

(Start: 8 @61058 has 50 MA's), (14, 60986),

Gene: Corazon\_20 Start: 6203, Stop: 6358, Start Num: 9

Candidate Starts for Corazon\_20:

(Start: 9 @6203 has 17 MA's), (Start: 12 @6242 has 1 MA's),

Gene: Corofin\_78 Start: 60624, Stop: 60436, Start Num: 8

Candidate Starts for Corofin\_78:

(Start: 8 @60624 has 50 MA's), (14, 60552),

Gene: Cosmo\_97 Start: 57537, Stop: 57701, Start Num: 6

Candidate Starts for Cosmo\_97:

(Start: 6 @57537 has 5 MA's),

Gene: Daisy\_77 Start: 60175, Stop: 59987, Start Num: 8

Candidate Starts for Daisy\_77:

(Start: 8 @60175 has 50 MA's), (14, 60103),

Gene: Deenasa\_78 Start: 61524, Stop: 61336, Start Num: 8  
Candidate Starts for Deenasa\_78:  
(Start: 8 @61524 has 50 MA's), (14, 61452),

Gene: Devonte\_77 Start: 60240, Stop: 60052, Start Num: 8  
Candidate Starts for Devonte\_77:  
(Start: 8 @60240 has 50 MA's), (14, 60168),

Gene: EniyanLRS\_94 Start: 57534, Stop: 57698, Start Num: 6  
Candidate Starts for EniyanLRS\_94:  
(Start: 6 @57534 has 5 MA's),

Gene: FeliMaine\_22 Start: 6251, Stop: 6406, Start Num: 9  
Candidate Starts for FeliMaine\_22:  
(Start: 9 @6251 has 17 MA's), (Start: 12 @6290 has 1 MA's),

Gene: Gadget\_79 Start: 60975, Stop: 60787, Start Num: 8  
Candidate Starts for Gadget\_79:  
(Start: 8 @60975 has 50 MA's), (14, 60903),

Gene: Gattaca\_21 Start: 5771, Stop: 5926, Start Num: 9  
Candidate Starts for Gattaca\_21:  
(Start: 9 @5771 has 17 MA's), (Start: 12 @5810 has 1 MA's), (15, 5849),

Gene: Gervas\_79 Start: 61069, Stop: 60881, Start Num: 8  
Candidate Starts for Gervas\_79:  
(Start: 8 @61069 has 50 MA's), (14, 60997),

Gene: GlenHope\_79 Start: 60648, Stop: 60460, Start Num: 8  
Candidate Starts for GlenHope\_79:  
(Start: 8 @60648 has 50 MA's), (14, 60576),

Gene: Glubnar\_79 Start: 60507, Stop: 60319, Start Num: 8  
Candidate Starts for Glubnar\_79:  
(Start: 8 @60507 has 50 MA's), (14, 60435),

Gene: GoongGoong\_20 Start: 5823, Stop: 5939, Start Num: 12  
Candidate Starts for GoongGoong\_20:  
(Start: 9 @5784 has 17 MA's), (Start: 12 @5823 has 1 MA's), (15, 5862),

Gene: Halfpint\_77 Start: 60390, Stop: 60202, Start Num: 8  
Candidate Starts for Halfpint\_77:  
(Start: 8 @60390 has 50 MA's), (14, 60318),

Gene: HarveySr\_77 Start: 60159, Stop: 59971, Start Num: 8  
Candidate Starts for HarveySr\_77:  
(Start: 8 @60159 has 50 MA's), (14, 60087),

Gene: Heathcliff\_78 Start: 60569, Stop: 60381, Start Num: 8  
Candidate Starts for Heathcliff\_78:  
(Start: 8 @60569 has 50 MA's), (14, 60497),

Gene: Huphlepuuff\_23 Start: 6055, Stop: 6210, Start Num: 9  
Candidate Starts for Huphlepuuff\_23:  
(Start: 9 @6055 has 17 MA's), (Start: 12 @6094 has 1 MA's), (15, 6133),

Gene: Jackstina\_73 Start: 60483, Stop: 60295, Start Num: 8  
Candidate Starts for Jackstina\_73:  
(Start: 8 @60483 has 50 MA's), (14, 60411),

Gene: JoieB\_22 Start: 6274, Stop: 6429, Start Num: 9  
Candidate Starts for JoieB\_22:  
(Start: 9 @6274 has 17 MA's), (Start: 12 @6313 has 1 MA's),

Gene: Kamiyu\_78 Start: 60572, Stop: 60384, Start Num: 8  
Candidate Starts for Kamiyu\_78:  
(Start: 8 @60572 has 50 MA's), (14, 60500),

Gene: Kronus\_78 Start: 61656, Stop: 61468, Start Num: 8  
Candidate Starts for Kronus\_78:  
(Start: 8 @61656 has 50 MA's), (14, 61584),

Gene: LestyG\_76 Start: 60142, Stop: 59954, Start Num: 8  
Candidate Starts for LestyG\_76:  
(Start: 8 @60142 has 50 MA's), (14, 60070),

Gene: Lilbit\_21 Start: 6290, Stop: 6406, Start Num: 12  
Candidate Starts for Lilbit\_21:  
(Start: 9 @6251 has 17 MA's), (Start: 12 @6290 has 1 MA's),

Gene: LittleLaf\_21 Start: 5980, Stop: 6135, Start Num: 9  
Candidate Starts for LittleLaf\_21:  
(Start: 9 @5980 has 17 MA's), (Start: 12 @6019 has 1 MA's),

Gene: MOOREtheMARYer\_59 Start: 40807, Stop: 40995, Start Num: 5  
Candidate Starts for MOOREtheMARYer\_59:  
(Start: 5 @40807 has 4 MA's),

Gene: Marley1013\_79 Start: 61508, Stop: 61320, Start Num: 8  
Candidate Starts for Marley1013\_79:  
(Start: 8 @61508 has 50 MA's), (14, 61436),

Gene: Marlia\_79 Start: 61041, Stop: 60853, Start Num: 8  
Candidate Starts for Marlia\_79:  
(Start: 8 @61041 has 50 MA's), (14, 60969),

Gene: Marvin\_20 Start: 6250, Stop: 6405, Start Num: 9  
Candidate Starts for Marvin\_20:  
(Start: 9 @6250 has 17 MA's), (Start: 12 @6289 has 1 MA's),

Gene: MaryV\_99 Start: 57945, Stop: 58109, Start Num: 6  
Candidate Starts for MaryV\_99:  
(Start: 6 @57945 has 5 MA's),

Gene: MmasiCarm\_79 Start: 61011, Stop: 60823, Start Num: 8

Candidate Starts for MmasiCarm\_79:  
(Start: 8 @61011 has 50 MA's), (14, 60939),

Gene: Mortcellus\_78 Start: 61727, Stop: 61539, Start Num: 8  
Candidate Starts for Mortcellus\_78:  
(Start: 8 @61727 has 50 MA's), (14, 61655),

Gene: Morty007\_77 Start: 61508, Stop: 61320, Start Num: 8  
Candidate Starts for Morty007\_77:  
(Start: 8 @61508 has 50 MA's), (14, 61436),

Gene: MosMoris\_20 Start: 5771, Stop: 5926, Start Num: 9  
Candidate Starts for MosMoris\_20:  
(Start: 9 @5771 has 17 MA's), (Start: 12 @5810 has 1 MA's), (15, 5849),

Gene: Mulaychimus\_79 Start: 61021, Stop: 60833, Start Num: 8  
Candidate Starts for Mulaychimus\_79:  
(Start: 8 @61021 has 50 MA's), (14, 60949),

Gene: Neos5\_78 Start: 60970, Stop: 60782, Start Num: 8  
Candidate Starts for Neos5\_78:  
(Start: 8 @60970 has 50 MA's), (14, 60898),

Gene: NoShow\_5 Start: 4743, Stop: 4907, Start Num: 5  
Candidate Starts for NoShow\_5:  
(3, 4698), (Start: 5 @4743 has 4 MA's),

Gene: Nova53\_141 Start: 86962, Stop: 87084, Start Num: 7  
Candidate Starts for Nova53\_141:  
(3, 86905), (Start: 7 @86962 has 1 MA's), (11, 86989), (13, 87016), (14, 87031),

Gene: Nozo\_78 Start: 61379, Stop: 61191, Start Num: 8  
Candidate Starts for Nozo\_78:  
(Start: 8 @61379 has 50 MA's), (14, 61307),

Gene: Obutu\_80 Start: 61182, Stop: 60994, Start Num: 8  
Candidate Starts for Obutu\_80:  
(Start: 8 @61182 has 50 MA's), (14, 61110),

Gene: Olivio\_78 Start: 60823, Stop: 60635, Start Num: 8  
Candidate Starts for Olivio\_78:  
(Start: 8 @60823 has 50 MA's), (14, 60751),

Gene: OrangeOswald\_78 Start: 60613, Stop: 60425, Start Num: 8  
Candidate Starts for OrangeOswald\_78:  
(Start: 8 @60613 has 50 MA's), (14, 60541),

Gene: Phaedrus\_73 Start: 60030, Stop: 59842, Start Num: 8  
Candidate Starts for Phaedrus\_73:  
(Start: 8 @60030 has 50 MA's), (14, 59958),

Gene: Phayeta\_81 Start: 61099, Stop: 60911, Start Num: 8  
Candidate Starts for Phayeta\_81:

(Start: 8 @61099 has 50 MA's), (14, 61027),

Gene: Philly\_77 Start: 60462, Stop: 60274, Start Num: 8

Candidate Starts for Philly\_77:

(Start: 8 @60462 has 50 MA's), (14, 60390),

Gene: Phlyer\_78 Start: 61325, Stop: 61137, Start Num: 8

Candidate Starts for Phlyer\_78:

(Start: 8 @61325 has 50 MA's), (14, 61253),

Gene: Pinnie\_57 Start: 40921, Stop: 41109, Start Num: 5

Candidate Starts for Pinnie\_57:

(3, 40876), (Start: 5 @40921 has 4 MA's),

Gene: Pipefish\_80 Start: 61721, Stop: 61533, Start Num: 8

Candidate Starts for Pipefish\_80:

(Start: 8 @61721 has 50 MA's), (14, 61649),

Gene: Poise\_22 Start: 5882, Stop: 6037, Start Num: 9

Candidate Starts for Poise\_22:

(Start: 9 @5882 has 17 MA's), (Start: 12 @5921 has 1 MA's), (15, 5960),

Gene: Pringar\_21 Start: 5880, Stop: 6035, Start Num: 9

Candidate Starts for Pringar\_21:

(Start: 9 @5880 has 17 MA's), (Start: 12 @5919 has 1 MA's),

Gene: Raela\_22 Start: 6437, Stop: 6592, Start Num: 9

Candidate Starts for Raela\_22:

(Start: 9 @6437 has 17 MA's), (Start: 12 @6476 has 1 MA's), (15, 6515),

Gene: RagingRooster\_77 Start: 60305, Stop: 60117, Start Num: 8

Candidate Starts for RagingRooster\_77:

(Start: 8 @60305 has 50 MA's), (14, 60233),

Gene: RedRaider77\_22 Start: 6021, Stop: 6176, Start Num: 9

Candidate Starts for RedRaider77\_22:

(Start: 9 @6021 has 17 MA's), (Start: 12 @6060 has 1 MA's), (15, 6099),

Gene: Rita1961\_79 Start: 60959, Stop: 60771, Start Num: 8

Candidate Starts for Rita1961\_79:

(Start: 8 @60959 has 50 MA's), (14, 60887),

Gene: RomaT\_78 Start: 61179, Stop: 60991, Start Num: 8

Candidate Starts for RomaT\_78:

(Start: 8 @61179 has 50 MA's), (14, 61107),

Gene: Saguaro\_73 Start: 61316, Stop: 61456, Start Num: 4

Candidate Starts for Saguaro\_73:

(Start: 4 @61316 has 1 MA's), (10, 61373),

Gene: Shenandoah\_77 Start: 60225, Stop: 60037, Start Num: 8

Candidate Starts for Shenandoah\_77:

(Start: 8 @60225 has 50 MA's), (14, 60153),

Gene: Stargaze\_57 Start: 40411, Stop: 40605, Start Num: 5  
Candidate Starts for Stargaze\_57:  
(Start: 5 @40411 has 4 MA's),

Gene: SwainyDoc\_79 Start: 60988, Stop: 60800, Start Num: 8  
Candidate Starts for SwainyDoc\_79:  
(Start: 8 @60988 has 50 MA's), (14, 60916),

Gene: SynergyX\_78 Start: 60616, Stop: 60428, Start Num: 8  
Candidate Starts for SynergyX\_78:  
(Start: 8 @60616 has 50 MA's), (14, 60544),

Gene: Tesla\_21 Start: 5873, Stop: 6028, Start Num: 9  
Candidate Starts for Tesla\_21:  
(Start: 9 @5873 has 17 MA's), (Start: 12 @5912 has 1 MA's), (15, 5951),

Gene: TinyTerror\_79 Start: 61039, Stop: 60851, Start Num: 8  
Candidate Starts for TinyTerror\_79:  
(Start: 8 @61039 has 50 MA's), (14, 60967),

Gene: Tydolla\_74 Start: 60595, Stop: 60407, Start Num: 8  
Candidate Starts for Tydolla\_74:  
(Start: 8 @60595 has 50 MA's), (14, 60523),

Gene: VasuNzinga\_20 Start: 5457, Stop: 5612, Start Num: 9  
Candidate Starts for VasuNzinga\_20:  
(Start: 9 @5457 has 17 MA's), (Start: 12 @5496 has 1 MA's),

Gene: Wildcat\_99 Start: 57955, Stop: 58119, Start Num: 6  
Candidate Starts for Wildcat\_99:  
(Start: 6 @57955 has 5 MA's),

Gene: Yahalom\_76 Start: 60422, Stop: 60234, Start Num: 8  
Candidate Starts for Yahalom\_76:  
(Start: 8 @60422 has 50 MA's), (14, 60350),

Gene: YangYin\_57 Start: 40848, Stop: 41042, Start Num: 5  
Candidate Starts for YangYin\_57:  
(Start: 5 @40848 has 4 MA's),

Gene: Yinz\_78 Start: 60487, Stop: 60299, Start Num: 8  
Candidate Starts for Yinz\_78:  
(Start: 8 @60487 has 50 MA's), (14, 60415),