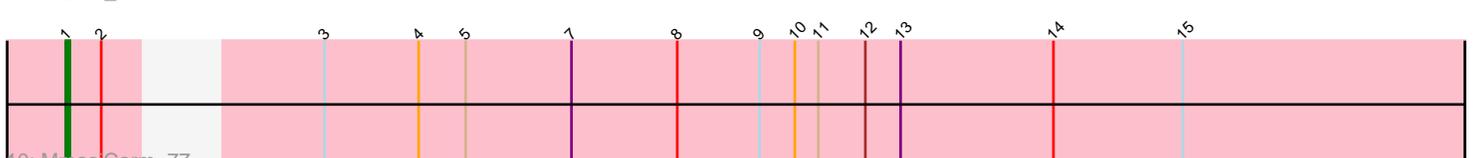
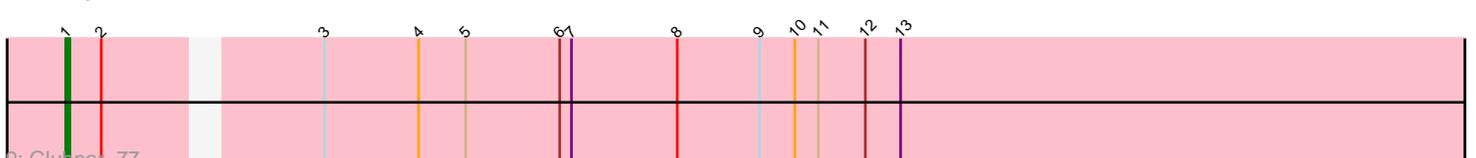
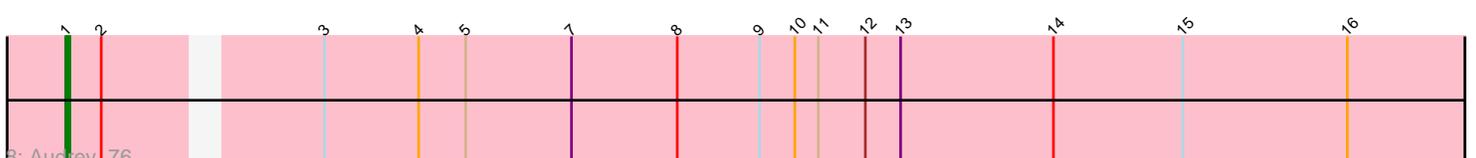
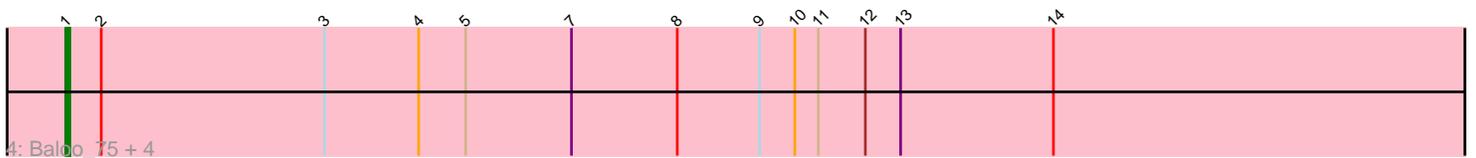
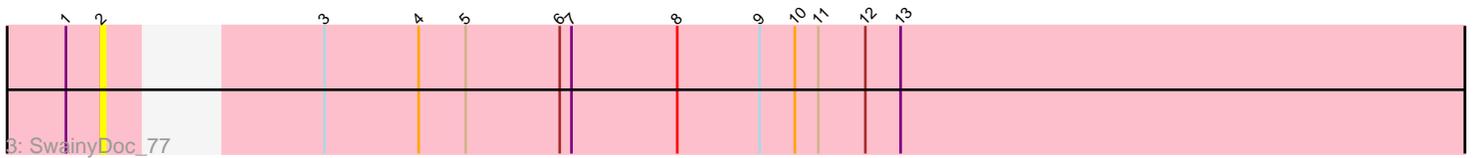
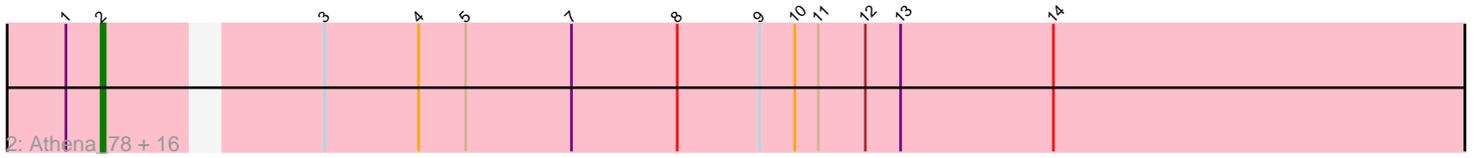
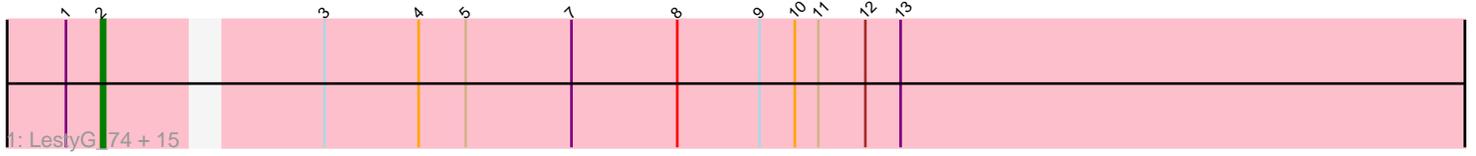


Pham 291208



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 291208 Report

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

Pham number 291208 has 56 members, 6 are drafts.

Phages represented in each track:

- Track 1 : LestyG\_74, Tydolla\_72, Jackstina\_71, Akoma\_76, HarveySr\_75, Casbah\_76, Philly\_75, Chentzyk\_78, Kamiyu\_76, Neos5\_76, Marlia\_77, Yinz\_76, GlenHope\_77, Phaedrus\_71, Mortcellus\_76, Mulaychimus\_77
- Track 2 : Athena\_78, Briakila\_76, Ben11\_76, Gervas\_77, Corofin\_76, Chalmers\_75, RomaT\_76, Morty007\_75, SlippinJimmy\_79, Marley1013\_77, Phlyer\_76, Halfpint\_75, Pipefish\_78, Compostia\_75, Obutu\_78, Rita1961\_77, Olivio\_76
- Track 3 : SwainyDoc\_77
- Track 4 : Baloo\_75, Deenasa\_76, Nozo\_76, OrangeOswald\_76, ChaChing\_76
- Track 5 : Daisy\_75, Heathcliff\_76
- Track 6 : Abinghost\_76, Devonte\_75, TinyTerror\_77, Yahalom\_74, Chandler\_76, Bernardo\_77, Gadget\_77, SynergyX\_76, Shenandoah\_75, RagingRooster\_75
- Track 7 : Kronus\_76, Phayeta\_79
- Track 8 : Audrey\_76
- Track 9 : Glubnar\_77
- Track 10 : MmasiCarm\_77

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

The start number called the most often in the published annotations is 2, it was called in 40 of the 50 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost\_76, Akoma\_76, Athena\_78, Ben11\_76, Bernardo\_77, Briakila\_76, Casbah\_76, Chalmers\_75, Chandler\_76, Chentzyk\_78, Compostia\_75, Corofin\_76, Daisy\_75, Devonte\_75, Gadget\_77, Gervas\_77, GlenHope\_77, Halfpint\_75, HarveySr\_75, Heathcliff\_76, Jackstina\_71, Kamiyu\_76, LestyG\_74, Marley1013\_77, Marlia\_77, Mortcellus\_76, Morty007\_75, Mulaychimus\_77, Neos5\_76, Obutu\_78, Olivio\_76, Phaedrus\_71, Philly\_75, Phlyer\_76, Pipefish\_78, RagingRooster\_75, Rita1961\_77, RomaT\_76, Shenandoah\_75, SlippinJimmy\_79, SwainyDoc\_77, SynergyX\_76, TinyTerror\_77, Tydolla\_72, Yahalom\_74, Yinz\_76,

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

- Audrey\_76, Baloo\_75, ChaChing\_76, Deenasa\_76, Glubnar\_77, Kronus\_76, MmasiCarm\_77, Nozo\_76, OrangeOswald\_76, Phayeta\_79,

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

- 

### Summary by start number:

Start 1:

- Found in 56 of 56 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 10 of 50
- Called 17.9% of time when present
- Phage (with cluster) where this start called: Audrey\_76 (B3), Baloo\_75 (B3), ChaChing\_76 (B3), Deenasa\_76 (B3), Glubnar\_77 (B3), Kronus\_76 (B3), MmasiCarm\_77 (B3), Nozo\_76 (B3), OrangeOswald\_76 (B3), Phayeta\_79 (B3),

Start 2:

- Found in 56 of 56 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 40 of 50
- Called 82.1% of time when present
- Phage (with cluster) where this start called: Abinghost\_76 (B3), Akoma\_76 (B3), Athena\_78 (B3), Ben11\_76 (B3), Bernardo\_77 (B3), Briakila\_76 (B3), Casbah\_76 (B3), Chalmers\_75 (B3), Chandler\_76 (B3), Chentzyk\_78 (B3), Compostia\_75 (B3), Corofin\_76 (B3), Daisy\_75 (B3), Devonte\_75 (B3), Gadget\_77 (B3), Gervas\_77 (B3), GlenHope\_77 (B3), Halfpint\_75 (B3), HarveySr\_75 (B3), Heathcliff\_76 (B3), Jackstina\_71 (B3), Kamiyu\_76 (B3), LestyG\_74 (B3), Marley1013\_77 (B3), Marlia\_77 (B3), Mortcellus\_76 (B3), Morty007\_75 (B3), Mulaychimus\_77 (B3), Neos5\_76 (B3), Obutu\_78 (B3), Olivio\_76 (B3), Phaedrus\_71 (B3), Philly\_75 (B3), Phlyer\_76 (B3), Pipefish\_78 (B3), RagingRooster\_75 (B3), Rita1961\_77 (B3), RomaT\_76 (B3), Shenandoah\_75 (B3), SlippinJimmy\_79 (B3), SwainyDoc\_77 (B3), SynergyX\_76 (B3), TinyTerror\_77 (B3), Tydolla\_72 (B3), Yahalom\_74 (B3), Yinz\_76 (B3),

### Summary by clusters:

There is one cluster represented in this pham: B3

Info for manual annotations of cluster B3:

- Start number 1 was manually annotated 10 times for cluster B3.
- Start number 2 was manually annotated 40 times for cluster B3.

### Gene Information:

Gene: Abinghost\_76 Start: 59516, Stop: 59863, Start Num: 2

Candidate Starts for Abinghost\_76:

(Start: 1 @59507 has 10 MA's), (Start: 2 @59516 has 40 MA's), (3, 59564), (4, 59588), (5, 59600), (7, 59627), (8, 59654), (9, 59675), (10, 59684), (11, 59690), (12, 59702), (13, 59711), (14, 59750), (15, 59783),

Gene: Akoma\_76 Start: 59556, Stop: 59903, Start Num: 2

Candidate Starts for Akoma\_76:

(Start: 1 @59547 has 10 MA's), (Start: 2 @59556 has 40 MA's), (3, 59604), (4, 59628), (5, 59640), (7, 59667), (8, 59694), (9, 59715), (10, 59724), (11, 59730), (12, 59742), (13, 59751),

Gene: Athena\_78 Start: 60291, Stop: 60638, Start Num: 2

Candidate Starts for Athena\_78:

(Start: 1 @60282 has 10 MA's), (Start: 2 @60291 has 40 MA's), (3, 60339), (4, 60363), (5, 60375), (7, 60402), (8, 60429), (9, 60450), (10, 60459), (11, 60465), (12, 60477), (13, 60486), (14, 60525),

Gene: Audrey\_76 Start: 59536, Stop: 59892, Start Num: 1

Candidate Starts for Audrey\_76:

(Start: 1 @59536 has 10 MA's), (Start: 2 @59545 has 40 MA's), (3, 59593), (4, 59617), (5, 59629), (7, 59656), (8, 59683), (9, 59704), (10, 59713), (11, 59719), (12, 59731), (13, 59740), (14, 59779), (15, 59812), (16, 59854),

Gene: Baloo\_75 Start: 59379, Stop: 59744, Start Num: 1

Candidate Starts for Baloo\_75:

(Start: 1 @59379 has 10 MA's), (Start: 2 @59388 has 40 MA's), (3, 59445), (4, 59469), (5, 59481), (7, 59508), (8, 59535), (9, 59556), (10, 59565), (11, 59571), (12, 59583), (13, 59592), (14, 59631),

Gene: Ben11\_76 Start: 59772, Stop: 60119, Start Num: 2

Candidate Starts for Ben11\_76:

(Start: 1 @59763 has 10 MA's), (Start: 2 @59772 has 40 MA's), (3, 59820), (4, 59844), (5, 59856), (7, 59883), (8, 59910), (9, 59931), (10, 59940), (11, 59946), (12, 59958), (13, 59967), (14, 60006),

Gene: Bernardo\_77 Start: 59747, Stop: 60082, Start Num: 2

Candidate Starts for Bernardo\_77:

(Start: 1 @59738 has 10 MA's), (Start: 2 @59747 has 40 MA's), (3, 59783), (4, 59807), (5, 59819), (7, 59846), (8, 59873), (9, 59894), (10, 59903), (11, 59909), (12, 59921), (13, 59930), (14, 59969), (15, 60002),

Gene: Briakila\_76 Start: 59755, Stop: 60090, Start Num: 2

Candidate Starts for Briakila\_76:

(Start: 1 @59746 has 10 MA's), (Start: 2 @59755 has 40 MA's), (3, 59791), (4, 59815), (5, 59827), (7, 59854), (8, 59881), (9, 59902), (10, 59911), (11, 59917), (12, 59929), (13, 59938), (14, 59977),

Gene: Casbah\_76 Start: 59856, Stop: 60203, Start Num: 2

Candidate Starts for Casbah\_76:

(Start: 1 @59847 has 10 MA's), (Start: 2 @59856 has 40 MA's), (3, 59904), (4, 59928), (5, 59940), (7, 59967), (8, 59994), (9, 60015), (10, 60024), (11, 60030), (12, 60042), (13, 60051),

Gene: ChaChing\_76 Start: 59564, Stop: 59908, Start Num: 1

Candidate Starts for ChaChing\_76:

(Start: 1 @59564 has 10 MA's), (Start: 2 @59573 has 40 MA's), (3, 59609), (4, 59633), (5, 59645), (7, 59672), (8, 59699), (9, 59720), (10, 59729), (11, 59735), (12, 59747), (13, 59756), (14, 59795),

Gene: Chalmers\_75 Start: 60003, Stop: 60338, Start Num: 2

Candidate Starts for Chalmers\_75:

(Start: 1 @59994 has 10 MA's), (Start: 2 @60003 has 40 MA's), (3, 60039), (4, 60063), (5, 60075), (7, 60102), (8, 60129), (9, 60150), (10, 60159), (11, 60165), (12, 60177), (13, 60186), (14, 60225),

Gene: Chandler\_76 Start: 60332, Stop: 60679, Start Num: 2

Candidate Starts for Chandler\_76:

(Start: 1 @60323 has 10 MA's), (Start: 2 @60332 has 40 MA's), (3, 60380), (4, 60404), (5, 60416), (7, 60443), (8, 60470), (9, 60491), (10, 60500), (11, 60506), (12, 60518), (13, 60527), (14, 60566), (15, 60599),

Gene: Chentzyk\_78 Start: 60499, Stop: 60846, Start Num: 2

Candidate Starts for Chentzyk\_78:

(Start: 1 @60490 has 10 MA's), (Start: 2 @60499 has 40 MA's), (3, 60547), (4, 60571), (5, 60583), (7, 60610), (8, 60637), (9, 60658), (10, 60667), (11, 60673), (12, 60685), (13, 60694),

Gene: Compostia\_75 Start: 60001, Stop: 60348, Start Num: 2

Candidate Starts for Compostia\_75:

(Start: 1 @59992 has 10 MA's), (Start: 2 @60001 has 40 MA's), (3, 60049), (4, 60073), (5, 60085), (7, 60112), (8, 60139), (9, 60160), (10, 60169), (11, 60175), (12, 60187), (13, 60196), (14, 60235),

Gene: Corofin\_76 Start: 59579, Stop: 59914, Start Num: 2

Candidate Starts for Corofin\_76:

(Start: 1 @59570 has 10 MA's), (Start: 2 @59579 has 40 MA's), (3, 59615), (4, 59639), (5, 59651), (7, 59678), (8, 59705), (9, 59726), (10, 59735), (11, 59741), (12, 59753), (13, 59762), (14, 59801),

Gene: Daisy\_75 Start: 59118, Stop: 59465, Start Num: 2

Candidate Starts for Daisy\_75:

(Start: 1 @59109 has 10 MA's), (Start: 2 @59118 has 40 MA's), (3, 59166), (4, 59190), (5, 59202), (7, 59229), (8, 59256), (9, 59277), (10, 59286), (11, 59292), (12, 59304), (13, 59313), (14, 59352), (15, 59385), (16, 59427),

Gene: Deenasa\_76 Start: 60458, Stop: 60814, Start Num: 1

Candidate Starts for Deenasa\_76:

(Start: 1 @60458 has 10 MA's), (Start: 2 @60467 has 40 MA's), (3, 60515), (4, 60539), (5, 60551), (7, 60578), (8, 60605), (9, 60626), (10, 60635), (11, 60641), (12, 60653), (13, 60662), (14, 60701),

Gene: Devonte\_75 Start: 59195, Stop: 59530, Start Num: 2

Candidate Starts for Devonte\_75:

(Start: 1 @59186 has 10 MA's), (Start: 2 @59195 has 40 MA's), (3, 59231), (4, 59255), (5, 59267), (7, 59294), (8, 59321), (9, 59342), (10, 59351), (11, 59357), (12, 59369), (13, 59378), (14, 59417), (15, 59450),

Gene: Gadget\_77 Start: 59930, Stop: 60265, Start Num: 2

Candidate Starts for Gadget\_77:

(Start: 1 @59921 has 10 MA's), (Start: 2 @59930 has 40 MA's), (3, 59966), (4, 59990), (5, 60002), (7, 60029), (8, 60056), (9, 60077), (10, 60086), (11, 60092), (12, 60104), (13, 60113), (14, 60152), (15, 60185),

Gene: Gervas\_77 Start: 60024, Stop: 60359, Start Num: 2

Candidate Starts for Gervas\_77:

(Start: 1 @60015 has 10 MA's), (Start: 2 @60024 has 40 MA's), (3, 60060), (4, 60084), (5, 60096), (7, 60123), (8, 60150), (9, 60171), (10, 60180), (11, 60186), (12, 60198), (13, 60207), (14, 60246),

Gene: GlenHope\_77 Start: 59591, Stop: 59938, Start Num: 2

Candidate Starts for GlenHope\_77:

(Start: 1 @59582 has 10 MA's), (Start: 2 @59591 has 40 MA's), (3, 59639), (4, 59663), (5, 59675), (7, 59702), (8, 59729), (9, 59750), (10, 59759), (11, 59765), (12, 59777), (13, 59786),

Gene: Glubnar\_77 Start: 59441, Stop: 59797, Start Num: 1

Candidate Starts for Glubnar\_77:

(Start: 1 @59441 has 10 MA's), (Start: 2 @59450 has 40 MA's), (3, 59498), (4, 59522), (5, 59534), (6, 59558), (7, 59561), (8, 59588), (9, 59609), (10, 59618), (11, 59624), (12, 59636), (13, 59645),

Gene: Halfpint\_75 Start: 59333, Stop: 59680, Start Num: 2

Candidate Starts for Halfpint\_75:

(Start: 1 @59324 has 10 MA's), (Start: 2 @59333 has 40 MA's), (3, 59381), (4, 59405), (5, 59417), (7, 59444), (8, 59471), (9, 59492), (10, 59501), (11, 59507), (12, 59519), (13, 59528), (14, 59567),

Gene: HarveySr\_75 Start: 59102, Stop: 59449, Start Num: 2

Candidate Starts for HarveySr\_75:

(Start: 1 @59093 has 10 MA's), (Start: 2 @59102 has 40 MA's), (3, 59150), (4, 59174), (5, 59186), (7, 59213), (8, 59240), (9, 59261), (10, 59270), (11, 59276), (12, 59288), (13, 59297),

Gene: Heathcliff\_76 Start: 59512, Stop: 59859, Start Num: 2

Candidate Starts for Heathcliff\_76:

(Start: 1 @59503 has 10 MA's), (Start: 2 @59512 has 40 MA's), (3, 59560), (4, 59584), (5, 59596), (7, 59623), (8, 59650), (9, 59671), (10, 59680), (11, 59686), (12, 59698), (13, 59707), (14, 59746), (15, 59779), (16, 59821),

Gene: Jackstina\_71 Start: 59438, Stop: 59773, Start Num: 2

Candidate Starts for Jackstina\_71:

(Start: 1 @59429 has 10 MA's), (Start: 2 @59438 has 40 MA's), (3, 59474), (4, 59498), (5, 59510), (7, 59537), (8, 59564), (9, 59585), (10, 59594), (11, 59600), (12, 59612), (13, 59621),

Gene: Kamiyu\_76 Start: 59515, Stop: 59862, Start Num: 2

Candidate Starts for Kamiyu\_76:

(Start: 1 @59506 has 10 MA's), (Start: 2 @59515 has 40 MA's), (3, 59563), (4, 59587), (5, 59599), (7, 59626), (8, 59653), (9, 59674), (10, 59683), (11, 59689), (12, 59701), (13, 59710),

Gene: Kronus\_76 Start: 60602, Stop: 60946, Start Num: 1

Candidate Starts for Kronus\_76:

(Start: 1 @60602 has 10 MA's), (Start: 2 @60611 has 40 MA's), (3, 60647), (4, 60671), (5, 60683), (7, 60710), (8, 60737), (9, 60758), (10, 60767), (11, 60773), (12, 60785), (13, 60794),

Gene: LestyG\_74 Start: 59085, Stop: 59432, Start Num: 2

Candidate Starts for LestyG\_74:

(Start: 1 @59076 has 10 MA's), (Start: 2 @59085 has 40 MA's), (3, 59133), (4, 59157), (5, 59169), (7, 59196), (8, 59223), (9, 59244), (10, 59253), (11, 59259), (12, 59271), (13, 59280),

Gene: Marley1013\_77 Start: 60463, Stop: 60798, Start Num: 2

Candidate Starts for Marley1013\_77:

(Start: 1 @60454 has 10 MA's), (Start: 2 @60463 has 40 MA's), (3, 60499), (4, 60523), (5, 60535), (7, 60562), (8, 60589), (9, 60610), (10, 60619), (11, 60625), (12, 60637), (13, 60646), (14, 60685),

Gene: Marlia\_77 Start: 59984, Stop: 60331, Start Num: 2

Candidate Starts for Marlia\_77:

(Start: 1 @59975 has 10 MA's), (Start: 2 @59984 has 40 MA's), (3, 60032), (4, 60056), (5, 60068), (7, 60095), (8, 60122), (9, 60143), (10, 60152), (11, 60158), (12, 60170), (13, 60179),

Gene: MmasiCarm\_77 Start: 59957, Stop: 60301, Start Num: 1

Candidate Starts for MmasiCarm\_77:

(Start: 1 @59957 has 10 MA's), (Start: 2 @59966 has 40 MA's), (3, 60002), (4, 60026), (5, 60038), (7, 60065), (8, 60092), (9, 60113), (10, 60122), (11, 60128), (12, 60140), (13, 60149), (14, 60188), (15, 60221),

Gene: Mortcellus\_76 Start: 60670, Stop: 61017, Start Num: 2

Candidate Starts for Mortcellus\_76:

(Start: 1 @60661 has 10 MA's), (Start: 2 @60670 has 40 MA's), (3, 60718), (4, 60742), (5, 60754), (7, 60781), (8, 60808), (9, 60829), (10, 60838), (11, 60844), (12, 60856), (13, 60865),

Gene: Morty007\_75 Start: 60463, Stop: 60798, Start Num: 2

Candidate Starts for Morty007\_75:

(Start: 1 @60454 has 10 MA's), (Start: 2 @60463 has 40 MA's), (3, 60499), (4, 60523), (5, 60535), (7, 60562), (8, 60589), (9, 60610), (10, 60619), (11, 60625), (12, 60637), (13, 60646), (14, 60685),

Gene: Mulaychimus\_77 Start: 59976, Stop: 60311, Start Num: 2

Candidate Starts for Mulaychimus\_77:

(Start: 1 @59967 has 10 MA's), (Start: 2 @59976 has 40 MA's), (3, 60012), (4, 60036), (5, 60048), (7, 60075), (8, 60102), (9, 60123), (10, 60132), (11, 60138), (12, 60150), (13, 60159),

Gene: Neos5\_76 Start: 59925, Stop: 60260, Start Num: 2

Candidate Starts for Neos5\_76:

(Start: 1 @59916 has 10 MA's), (Start: 2 @59925 has 40 MA's), (3, 59961), (4, 59985), (5, 59997), (7, 60024), (8, 60051), (9, 60072), (10, 60081), (11, 60087), (12, 60099), (13, 60108),

Gene: Nozo\_76 Start: 60313, Stop: 60669, Start Num: 1

Candidate Starts for Nozo\_76:

(Start: 1 @60313 has 10 MA's), (Start: 2 @60322 has 40 MA's), (3, 60370), (4, 60394), (5, 60406), (7, 60433), (8, 60460), (9, 60481), (10, 60490), (11, 60496), (12, 60508), (13, 60517), (14, 60556),

Gene: Obutu\_78 Start: 60137, Stop: 60472, Start Num: 2

Candidate Starts for Obutu\_78:

(Start: 1 @60128 has 10 MA's), (Start: 2 @60137 has 40 MA's), (3, 60173), (4, 60197), (5, 60209), (7, 60236), (8, 60263), (9, 60284), (10, 60293), (11, 60299), (12, 60311), (13, 60320), (14, 60359),

Gene: Olivio\_76 Start: 59778, Stop: 60113, Start Num: 2

Candidate Starts for Olivio\_76:

(Start: 1 @59769 has 10 MA's), (Start: 2 @59778 has 40 MA's), (3, 59814), (4, 59838), (5, 59850), (7, 59877), (8, 59904), (9, 59925), (10, 59934), (11, 59940), (12, 59952), (13, 59961), (14, 60000),

Gene: OrangeOswald\_76 Start: 59547, Stop: 59903, Start Num: 1

Candidate Starts for OrangeOswald\_76:

(Start: 1 @59547 has 10 MA's), (Start: 2 @59556 has 40 MA's), (3, 59604), (4, 59628), (5, 59640), (7, 59667), (8, 59694), (9, 59715), (10, 59724), (11, 59730), (12, 59742), (13, 59751), (14, 59790),

Gene: Phaedrus\_71 Start: 58985, Stop: 59320, Start Num: 2

Candidate Starts for Phaedrus\_71:

(Start: 1 @58976 has 10 MA's), (Start: 2 @58985 has 40 MA's), (3, 59021), (4, 59045), (5, 59057), (7, 59084), (8, 59111), (9, 59132), (10, 59141), (11, 59147), (12, 59159), (13, 59168),

Gene: Phayeta\_79 Start: 60033, Stop: 60389, Start Num: 1

Candidate Starts for Phayeta\_79:

(Start: 1 @60033 has 10 MA's), (Start: 2 @60042 has 40 MA's), (3, 60090), (4, 60114), (5, 60126), (7, 60153), (8, 60180), (9, 60201), (10, 60210), (11, 60216), (12, 60228), (13, 60237),

Gene: Philly\_75 Start: 59417, Stop: 59752, Start Num: 2

Candidate Starts for Philly\_75:

(Start: 1 @59408 has 10 MA's), (Start: 2 @59417 has 40 MA's), (3, 59453), (4, 59477), (5, 59489), (7, 59516), (8, 59543), (9, 59564), (10, 59573), (11, 59579), (12, 59591), (13, 59600),

Gene: Phlyer\_76 Start: 60268, Stop: 60615, Start Num: 2

Candidate Starts for Phlyer\_76:

(Start: 1 @60259 has 10 MA's), (Start: 2 @60268 has 40 MA's), (3, 60316), (4, 60340), (5, 60352), (7, 60379), (8, 60406), (9, 60427), (10, 60436), (11, 60442), (12, 60454), (13, 60463), (14, 60502),

Gene: Pipefish\_78 Start: 60676, Stop: 61011, Start Num: 2

Candidate Starts for Pipefish\_78:

(Start: 1 @60667 has 10 MA's), (Start: 2 @60676 has 40 MA's), (3, 60712), (4, 60736), (5, 60748), (7, 60775), (8, 60802), (9, 60823), (10, 60832), (11, 60838), (12, 60850), (13, 60859), (14, 60898),

Gene: RagingRooster\_75 Start: 59248, Stop: 59595, Start Num: 2

Candidate Starts for RagingRooster\_75:

(Start: 1 @59239 has 10 MA's), (Start: 2 @59248 has 40 MA's), (3, 59296), (4, 59320), (5, 59332), (7, 59359), (8, 59386), (9, 59407), (10, 59416), (11, 59422), (12, 59434), (13, 59443), (14, 59482), (15, 59515),

Gene: Rita1961\_77 Start: 59914, Stop: 60249, Start Num: 2

Candidate Starts for Rita1961\_77:

(Start: 1 @59905 has 10 MA's), (Start: 2 @59914 has 40 MA's), (3, 59950), (4, 59974), (5, 59986), (7, 60013), (8, 60040), (9, 60061), (10, 60070), (11, 60076), (12, 60088), (13, 60097), (14, 60136),

Gene: RomaT\_76 Start: 60122, Stop: 60469, Start Num: 2

Candidate Starts for RomaT\_76:

(Start: 1 @60113 has 10 MA's), (Start: 2 @60122 has 40 MA's), (3, 60170), (4, 60194), (5, 60206), (7, 60233), (8, 60260), (9, 60281), (10, 60290), (11, 60296), (12, 60308), (13, 60317), (14, 60356),

Gene: Shenandoah\_75 Start: 59180, Stop: 59515, Start Num: 2

Candidate Starts for Shenandoah\_75:

(Start: 1 @59171 has 10 MA's), (Start: 2 @59180 has 40 MA's), (3, 59216), (4, 59240), (5, 59252), (7, 59279), (8, 59306), (9, 59327), (10, 59336), (11, 59342), (12, 59354), (13, 59363), (14, 59402), (15, 59435),

Gene: SlippinJimmy\_79 Start: 60944, Stop: 61279, Start Num: 2

Candidate Starts for SlippinJimmy\_79:

(Start: 1 @60935 has 10 MA's), (Start: 2 @60944 has 40 MA's), (3, 60980), (4, 61004), (5, 61016), (7, 61043), (8, 61070), (9, 61091), (10, 61100), (11, 61106), (12, 61118), (13, 61127), (14, 61166),

Gene: SwainyDoc\_77 Start: 59943, Stop: 60278, Start Num: 2

Candidate Starts for SwainyDoc\_77:

(Start: 1 @59934 has 10 MA's), (Start: 2 @59943 has 40 MA's), (3, 59979), (4, 60003), (5, 60015), (6, 60039), (7, 60042), (8, 60069), (9, 60090), (10, 60099), (11, 60105), (12, 60117), (13, 60126),

Gene: SynergyX\_76 Start: 59559, Stop: 59906, Start Num: 2

Candidate Starts for SynergyX\_76:

(Start: 1 @59550 has 10 MA's), (Start: 2 @59559 has 40 MA's), (3, 59607), (4, 59631), (5, 59643), (7, 59670), (8, 59697), (9, 59718), (10, 59727), (11, 59733), (12, 59745), (13, 59754), (14, 59793), (15, 59826),

Gene: TinyTerror\_77 Start: 59982, Stop: 60329, Start Num: 2

Candidate Starts for TinyTerror\_77:

(Start: 1 @59973 has 10 MA's), (Start: 2 @59982 has 40 MA's), (3, 60030), (4, 60054), (5, 60066), (7, 60093), (8, 60120), (9, 60141), (10, 60150), (11, 60156), (12, 60168), (13, 60177), (14, 60216), (15,

60249),

Gene: Tydolla\_72 Start: 59550, Stop: 59885, Start Num: 2

Candidate Starts for Tydolla\_72:

(Start: 1 @59541 has 10 MA's), (Start: 2 @59550 has 40 MA's), (3, 59586), (4, 59610), (5, 59622), (7, 59649), (8, 59676), (9, 59697), (10, 59706), (11, 59712), (12, 59724), (13, 59733),

Gene: Yahalom\_74 Start: 59365, Stop: 59712, Start Num: 2

Candidate Starts for Yahalom\_74:

(Start: 1 @59356 has 10 MA's), (Start: 2 @59365 has 40 MA's), (3, 59413), (4, 59437), (5, 59449), (7, 59476), (8, 59503), (9, 59524), (10, 59533), (11, 59539), (12, 59551), (13, 59560), (14, 59599), (15, 59632),

Gene: Yinz\_76 Start: 59430, Stop: 59777, Start Num: 2

Candidate Starts for Yinz\_76:

(Start: 1 @59421 has 10 MA's), (Start: 2 @59430 has 40 MA's), (3, 59478), (4, 59502), (5, 59514), (7, 59541), (8, 59568), (9, 59589), (10, 59598), (11, 59604), (12, 59616), (13, 59625),