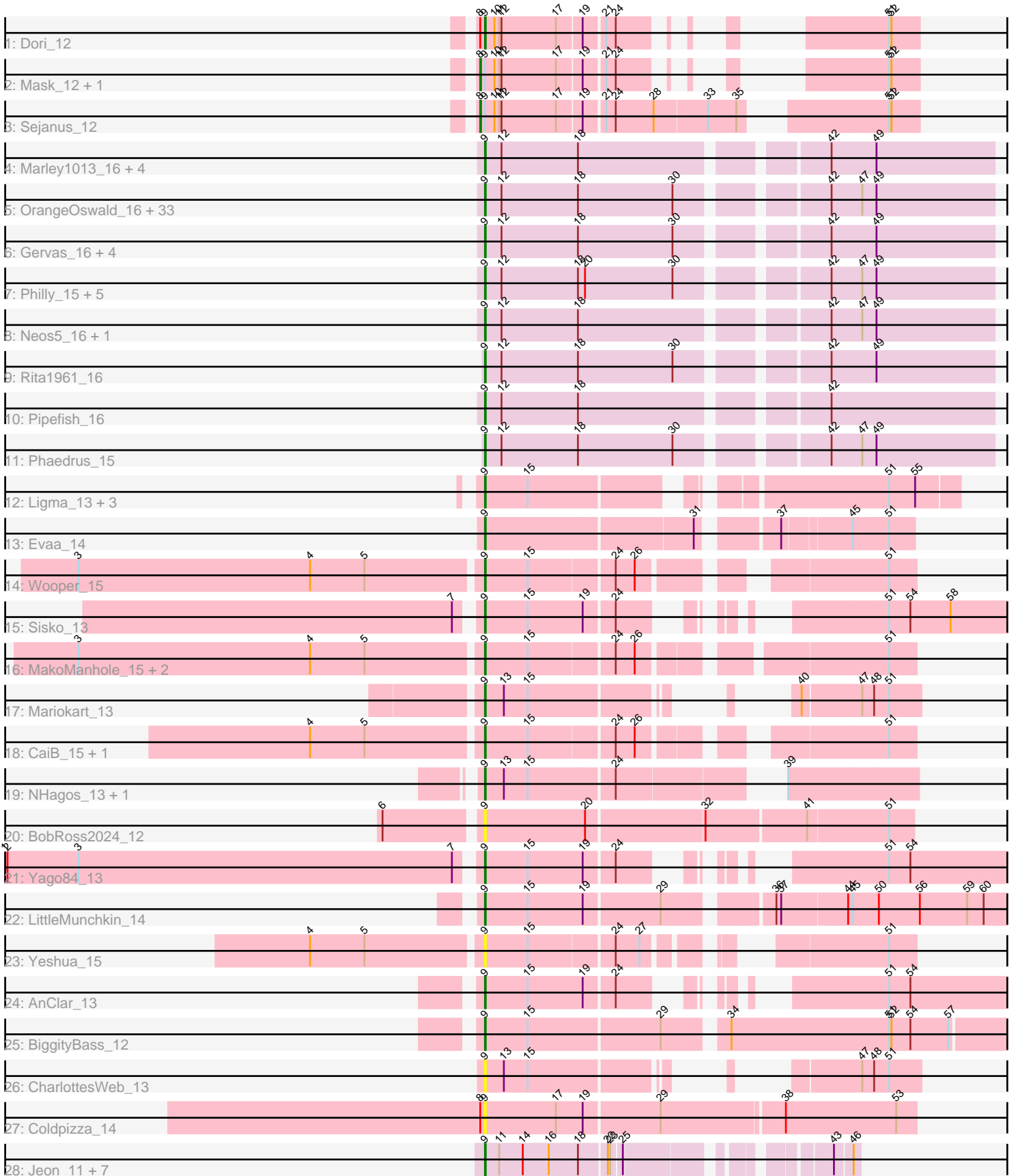


Pham 216061



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 216061 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216061 has 90 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Dori_12
- Track 2 : Mask_12, Mao1_11
- Track 3 : Sejanus_12
- Track 4 : Marley1013_16, Akoma_16, Bernardo_16, Yahalom_16, Morty007_16
- Track 5 : OrangeOswald_16, Jackstina_15, Ben11_15, Phlyer_16, Yinz_16, Tydolla_16, SynergyX_16, LestyG_16, Corofin_16, Briakila_16, TinyTerror_16, Heathcliff_16, Olivio_15, RagingRooster_16, Baloo_16, Abinghost_16, Gadget_17, Glubnar_16, Chentzyk_15, Deenasa_16, Audrey_16, Devonte_16, Kronus_15, Halfpint_15, Obutu_16, SlippinJimmy_16, Phayeta_16, Athena_17, Daisy_16, RomaT_16, Kamiyu_16, Nozo_16, Shenandoah_16, MmasiCarm_16
- Track 6 : Gervas_16, Marlia_16, GlenHope_17, Mortcellus_15, ChaChing_16
- Track 7 : Philly_15, HarveySr_16, Chandler_16, SwainyDoc_16, Casbah_15, Compostia_17
- Track 8 : Neos5_16, Chalmers_16
- Track 9 : Rita1961_16
- Track 10 : Pipefish_16
- Track 11 : Phaedrus_15
- Track 12 : Ligma_13, Fresco_13, Axumite_13, Shatter_13
- Track 13 : Evaa_14
- Track 14 : Wooper_15
- Track 15 : Sisko_13
- Track 16 : MakoManhole_15, CloverMinnie_15, MossRose_15
- Track 17 : Mariokart_13
- Track 18 : CaiB_15, AnarQue_15
- Track 19 : NHagos_13, AksarBAT_13
- Track 20 : BobRoss2024_12
- Track 21 : Yago84_13
- Track 22 : LittleMunchkin_14
- Track 23 : Yeshua_15
- Track 24 : AnClar_13
- Track 25 : BiggityBass_12
- Track 26 : CharlottesWeb_13
- Track 27 : Coldpizza_14
- Track 28 : Jeon_11, Taptic_11, PR_11, Argie_12, Megabear_11, GodPhather_12, Cepens_11, D12_11

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

The start number called the most often in the published annotations is 9, it was called in 72 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_16, Akoma_16, AksarBAT_13, AnClar_13, AnarQue_15, Argie_12, Athena_17, Audrey_16, Axumite_13, Baloo_16, Ben11_15, Bernardo_16, BiggityBass_12, BobRoss2024_12, Briakila_16, CaiB_15, Casbah_15, Cepens_11, ChaChing_16, Chalmers_16, Chandler_16, CharlottesWeb_13, Chentzyk_15, CloverMinnie_15, Coldpizza_14, Compostia_17, Corofin_16, D12_11, Daisy_16, Deenasa_16, Devonte_16, Dori_12, Evaa_14, Fresco_13, Gadget_17, Gervas_16, GlenHope_17, Glubnar_16, GodPhather_12, Halfpint_15, HarveySr_16, Heathcliff_16, Jackstina_15, Jeon_11, Kamiyu_16, Kronus_15, LestyG_16, Ligma_13, LittleMunchkin_14, MakoManhole_15, Mariokart_13, Marley1013_16, Marlia_16, Megabear_11, MmasiCarm_16, Mortcellus_15, Morty007_16, MossRose_15, NHagos_13, Neos5_16, Nozo_16, Obutu_16, Olivio_15, OrangeOswald_16, PR_11, Phaedrus_15, Phayeta_16, Philly_15, Phlyer_16, Pipefish_16, RagingRooster_16, Rita1961_16, RomaT_16, Shatter_13, Shenandoah_16, Sisko_13, SlippinJimmy_16, SwainyDoc_16, SynergyX_16, Taptic_11, TinyTerror_16, Tydolla_16, Wooper_15, Yago84_13, Yahalom_16, Yeshua_15, Yinz_16,

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

- Mao1_11, Mask_12, Sejanus_12,

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

-

Summary by start number:

Start 8:

- Found in 5 of 90 (5.6%) of genes in pham
- Manual Annotations of this start: 3 of 75
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Mao1_11 (AD), Mask_12 (AD), Sejanus_12 (AD),

Start 9:

- Found in 90 of 90 (100.0%) of genes in pham
- Manual Annotations of this start: 72 of 75
- Called 96.7% of time when present
- Phage (with cluster) where this start called: Abinghost_16 (B3), Akoma_16 (B3), AksarBAT_13 (DR), AnClar_13 (DR), AnarQue_15 (DR), Argie_12 (W), Athena_17 (B3), Audrey_16 (B3), Axumite_13 (DR), Baloo_16 (B3), Ben11_15 (B3), Bernardo_16 (B3), BiggityBass_12 (DR), BobRoss2024_12 (DR), Briakila_16 (B3), CaiB_15 (DR), Casbah_15 (B3), Cepens_11 (W), ChaChing_16 (B3), Chalmers_16 (B3), Chandler_16 (B3), CharlottesWeb_13 (DR), Chentzyk_15 (B3), CloverMinnie_15 (DR), Coldpizza_14 (DR), Compostia_17 (B3), Corofin_16 (B3), D12_11 (W), Daisy_16 (B3), Deenasa_16 (B3), Devonte_16 (B3), Dori_12 (AD), Evaa_14 (DR), Fresco_13 (DR), Gadget_17 (B3), Gervas_16 (B3), GlenHope_17 (B3), Glubnar_16 (B3), GodPhather_12 (W), Halfpint_15 (B3), HarveySr_16 (B3),

Heathcliff_16 (B3), Jackstina_15 (B3), Jeon_11 (W), Kamiyu_16 (B3), Kronus_15 (B3), LestyG_16 (B3), Ligma_13 (DR), LittleMunchkin_14 (DR), MakoManhole_15 (DR), Mariokart_13 (DR), Marley1013_16 (B3), Marlia_16 (B3), Megabear_11 (W), MmasiCarm_16 (B3), Mortcellus_15 (B3), Morty007_16 (B3), MossRose_15 (DR), NHagos_13 (DR), Neos5_16 (B3), Nozo_16 (B3), Obutu_16 (B3), Olivio_15 (B3), OrangeOswald_16 (B3), PR_11 (W), Phaedrus_15 (B3), Phayeta_16 (B3), Philly_15 (B3), Phlyer_16 (B3), Pipefish_16 (B3), RagingRooster_16 (B3), Rita1961_16 (B3), RomaT_16 (B3), Shatter_13 (DR), Shenandoah_16 (B3), Sisko_13 (DR), SlippinJimmy_16 (B3), SwainyDoc_16 (B3), SynergyX_16 (B3), Taptic_11 (W), TinyTerror_16 (B3), Tydolla_16 (B3), Wooper_15 (DR), Yago84_13 (DR), Yahalom_16 (B3), Yeshua_15 (DR), Yinz_16 (B3),

Summary by clusters:

There are 4 clusters represented in this pham: DR, AD, W, B3,

Info for manual annotations of cluster AD:

- Start number 8 was manually annotated 3 times for cluster AD.
- Start number 9 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster B3:

- Start number 9 was manually annotated 45 times for cluster B3.

Info for manual annotations of cluster DR:

- Start number 9 was manually annotated 18 times for cluster DR.

Info for manual annotations of cluster W:

- Start number 9 was manually annotated 8 times for cluster W.

Gene Information:

Gene: Abinghost_16 Start: 13964, Stop: 14569, Start Num: 9

Candidate Starts for Abinghost_16:

(Start: 9 @13964 has 72 MA's), (12, 13985), (18, 14081), (30, 14201), (42, 14363), (47, 14402), (49, 14420),

Gene: Akoma_16 Start: 13964, Stop: 14569, Start Num: 9

Candidate Starts for Akoma_16:

(Start: 9 @13964 has 72 MA's), (12, 13985), (18, 14081), (42, 14363), (49, 14420),

Gene: AksarBAT_13 Start: 12372, Stop: 12851, Start Num: 9

Candidate Starts for AksarBAT_13:

(Start: 9 @12372 has 72 MA's), (13, 12396), (15, 12426), (24, 12531), (39, 12690),

Gene: AnClar_13 Start: 13251, Stop: 13772, Start Num: 9

Candidate Starts for AnClar_13:

(Start: 9 @13251 has 72 MA's), (15, 13305), (19, 13374), (24, 13410), (51, 13617), (54, 13644),

Gene: AnarQue_15 Start: 13914, Stop: 14381, Start Num: 9

Candidate Starts for AnarQue_15:

(4, 13704), (5, 13773), (Start: 9 @13914 has 72 MA's), (15, 13968), (24, 14070), (26, 14094), (51, 14349),

Gene: Argie_12 Start: 13780, Stop: 14178, Start Num: 9

Candidate Starts for Argie_12:

(Start: 9 @13780 has 72 MA's), (11, 13798), (14, 13828), (16, 13861), (18, 13897), (22, 13930), (23, 13933), (25, 13945), (43, 14149), (46, 14170),

Gene: Athena_17 Start: 14727, Stop: 15332, Start Num: 9

Candidate Starts for Athena_17:

(Start: 9 @14727 has 72 MA's), (12, 14748), (18, 14844), (30, 14964), (42, 15126), (47, 15165), (49, 15183),

Gene: Audrey_16 Start: 13964, Stop: 14569, Start Num: 9

Candidate Starts for Audrey_16:

(Start: 9 @13964 has 72 MA's), (12, 13985), (18, 14081), (30, 14201), (42, 14363), (47, 14402), (49, 14420),

Gene: Axumite_13 Start: 12434, Stop: 12952, Start Num: 9

Candidate Starts for Axumite_13:

(Start: 9 @12434 has 72 MA's), (15, 12488), (51, 12869), (55, 12899),

Gene: Baloo_16 Start: 13964, Stop: 14569, Start Num: 9

Candidate Starts for Baloo_16:

(Start: 9 @13964 has 72 MA's), (12, 13985), (18, 14081), (30, 14201), (42, 14363), (47, 14402), (49, 14420),

Gene: Ben11_15 Start: 13788, Stop: 14393, Start Num: 9

Candidate Starts for Ben11_15:

(Start: 9 @13788 has 72 MA's), (12, 13809), (18, 13905), (30, 14025), (42, 14187), (47, 14226), (49, 14244),

Gene: Bernardo_16 Start: 13963, Stop: 14568, Start Num: 9

Candidate Starts for Bernardo_16:

(Start: 9 @13963 has 72 MA's), (12, 13984), (18, 14080), (42, 14362), (49, 14419),

Gene: BiggityBass_12 Start: 12234, Stop: 12866, Start Num: 9

Candidate Starts for BiggityBass_12:

(Start: 9 @12234 has 72 MA's), (15, 12288), (29, 12450), (34, 12519), (51, 12717), (52, 12720), (54, 12744), (57, 12792),

Gene: BobRoss2024_12 Start: 12263, Stop: 12784, Start Num: 9

Candidate Starts for BobRoss2024_12:

(6, 12149), (Start: 9 @12263 has 72 MA's), (20, 12389), (32, 12533), (41, 12656), (51, 12755),

Gene: Briakila_16 Start: 14729, Stop: 15334, Start Num: 9

Candidate Starts for Briakila_16:

(Start: 9 @14729 has 72 MA's), (12, 14750), (18, 14846), (30, 14966), (42, 15128), (47, 15167), (49, 15185),

Gene: CaiB_15 Start: 13902, Stop: 14366, Start Num: 9

Candidate Starts for CaiB_15:

(4, 13692), (5, 13761), (Start: 9 @13902 has 72 MA's), (15, 13956), (24, 14058), (26, 14082), (51, 14334),

Gene: Casbah_15 Start: 13816, Stop: 14421, Start Num: 9

Candidate Starts for Casbah_15:

(Start: 9 @13816 has 72 MA's), (12, 13837), (18, 13933), (20, 13942), (30, 14053), (42, 14215), (47, 14254), (49, 14272),

Gene: Cepens_11 Start: 13519, Stop: 13902, Start Num: 9

Candidate Starts for Cepens_11:

(Start: 9 @13519 has 72 MA's), (11, 13537), (14, 13567), (16, 13600), (18, 13636), (22, 13669), (23, 13672), (25, 13684), (43, 13873), (46, 13894),

Gene: ChaChing_16 Start: 13979, Stop: 14584, Start Num: 9

Candidate Starts for ChaChing_16:

(Start: 9 @13979 has 72 MA's), (12, 14000), (18, 14096), (30, 14216), (42, 14378), (49, 14435),

Gene: Chalmers_16 Start: 14772, Stop: 15377, Start Num: 9

Candidate Starts for Chalmers_16:

(Start: 9 @14772 has 72 MA's), (12, 14793), (18, 14889), (42, 15171), (47, 15210), (49, 15228),

Gene: Chandler_16 Start: 14738, Stop: 15343, Start Num: 9

Candidate Starts for Chandler_16:

(Start: 9 @14738 has 72 MA's), (12, 14759), (18, 14855), (20, 14864), (30, 14975), (42, 15137), (47, 15176), (49, 15194),

Gene: CharlottesWeb_13 Start: 12479, Stop: 12856, Start Num: 9

Candidate Starts for CharlottesWeb_13:

(Start: 9 @12479 has 72 MA's), (13, 12503), (15, 12533), (47, 12785), (48, 12800), (51, 12818),

Gene: Chentzyk_15 Start: 13834, Stop: 14439, Start Num: 9

Candidate Starts for Chentzyk_15:

(Start: 9 @13834 has 72 MA's), (12, 13855), (18, 13951), (30, 14071), (42, 14233), (47, 14272), (49, 14290),

Gene: CloverMinnie_15 Start: 13902, Stop: 14306, Start Num: 9

Candidate Starts for CloverMinnie_15:

(3, 13398), (4, 13692), (5, 13761), (Start: 9 @13902 has 72 MA's), (15, 13956), (24, 14058), (26, 14082), (51, 14274),

Gene: Coldpizza_14 Start: 14404, Stop: 14931, Start Num: 9

Candidate Starts for Coldpizza_14:

(Start: 8 @14398 has 3 MA's), (Start: 9 @14404 has 72 MA's), (17, 14494), (19, 14527), (29, 14620), (38, 14770), (53, 14908),

Gene: Compostia_17 Start: 14397, Stop: 15002, Start Num: 9

Candidate Starts for Compostia_17:

(Start: 9 @14397 has 72 MA's), (12, 14418), (18, 14514), (20, 14523), (30, 14634), (42, 14796), (47, 14835), (49, 14853),

Gene: Corofin_16 Start: 13989, Stop: 14594, Start Num: 9

Candidate Starts for Corofin_16:

(Start: 9 @13989 has 72 MA's), (12, 14010), (18, 14106), (30, 14226), (42, 14388), (47, 14427), (49, 14445),

Gene: D12_11 Start: 13497, Stop: 13895, Start Num: 9

Candidate Starts for D12_11:

(Start: 9 @13497 has 72 MA's), (11, 13515), (14, 13545), (16, 13578), (18, 13614), (22, 13647), (23, 13650), (25, 13662), (43, 13866), (46, 13887),

Gene: Daisy_16 Start: 13985, Stop: 14590, Start Num: 9

Candidate Starts for Daisy_16:

(Start: 9 @13985 has 72 MA's), (12, 14006), (18, 14102), (30, 14222), (42, 14384), (47, 14423), (49, 14441),

Gene: Deenasa_16 Start: 14727, Stop: 15332, Start Num: 9

Candidate Starts for Deenasa_16:

(Start: 9 @14727 has 72 MA's), (12, 14748), (18, 14844), (30, 14964), (42, 15126), (47, 15165), (49, 15183),

Gene: Devonte_16 Start: 13964, Stop: 14569, Start Num: 9

Candidate Starts for Devonte_16:

(Start: 9 @13964 has 72 MA's), (12, 13985), (18, 14081), (30, 14201), (42, 14363), (47, 14402), (49, 14420),

Gene: Dori_12 Start: 11226, Stop: 11591, Start Num: 9

Candidate Starts for Dori_12:

(Start: 8 @11220 has 3 MA's), (Start: 9 @11226 has 72 MA's), (10, 11238), (11, 11244), (12, 11247), (17, 11316), (19, 11346), (21, 11370), (24, 11382), (51, 11553), (52, 11556),

Gene: Evaa_14 Start: 13757, Stop: 14248, Start Num: 9

Candidate Starts for Evaa_14:

(Start: 9 @13757 has 72 MA's), (31, 14009), (37, 14090), (45, 14171), (51, 14216),

Gene: Fresco_13 Start: 12434, Stop: 12952, Start Num: 9

Candidate Starts for Fresco_13:

(Start: 9 @12434 has 72 MA's), (15, 12488), (51, 12869), (55, 12899),

Gene: Gadget_17 Start: 13968, Stop: 14573, Start Num: 9

Candidate Starts for Gadget_17:

(Start: 9 @13968 has 72 MA's), (12, 13989), (18, 14085), (30, 14205), (42, 14367), (47, 14406), (49, 14424),

Gene: Gervas_16 Start: 13947, Stop: 14552, Start Num: 9

Candidate Starts for Gervas_16:

(Start: 9 @13947 has 72 MA's), (12, 13968), (18, 14064), (30, 14184), (42, 14346), (49, 14403),

Gene: GlenHope_17 Start: 13954, Stop: 14559, Start Num: 9

Candidate Starts for GlenHope_17:

(Start: 9 @13954 has 72 MA's), (12, 13975), (18, 14071), (30, 14191), (42, 14353), (49, 14410),

Gene: Glubnar_16 Start: 13968, Stop: 14573, Start Num: 9

Candidate Starts for Glubnar_16:

(Start: 9 @13968 has 72 MA's), (12, 13989), (18, 14085), (30, 14205), (42, 14367), (47, 14406), (49, 14424),

Gene: GodPhather_12 Start: 13777, Stop: 14160, Start Num: 9

Candidate Starts for GodPhather_12:

(Start: 9 @13777 has 72 MA's), (11, 13795), (14, 13825), (16, 13858), (18, 13894), (22, 13927), (23, 13930), (25, 13942), (43, 14131), (46, 14152),

Gene: Halfpint_15 Start: 13789, Stop: 14394, Start Num: 9

Candidate Starts for Halfpint_15:

(Start: 9 @13789 has 72 MA's), (12, 13810), (18, 13906), (30, 14026), (42, 14188), (47, 14227), (49, 14245),

Gene: HarveySr_16 Start: 13941, Stop: 14546, Start Num: 9

Candidate Starts for HarveySr_16:

(Start: 9 @13941 has 72 MA's), (12, 13962), (18, 14058), (20, 14067), (30, 14178), (42, 14340), (47, 14379), (49, 14397),

Gene: Heathcliff_16 Start: 13926, Stop: 14531, Start Num: 9

Candidate Starts for Heathcliff_16:

(Start: 9 @13926 has 72 MA's), (12, 13947), (18, 14043), (30, 14163), (42, 14325), (47, 14364), (49, 14382),

Gene: Jackstina_15 Start: 13890, Stop: 14495, Start Num: 9

Candidate Starts for Jackstina_15:

(Start: 9 @13890 has 72 MA's), (12, 13911), (18, 14007), (30, 14127), (42, 14289), (47, 14328), (49, 14346),

Gene: Jeon_11 Start: 13507, Stop: 13902, Start Num: 9

Candidate Starts for Jeon_11:

(Start: 9 @13507 has 72 MA's), (11, 13525), (14, 13555), (16, 13588), (18, 13624), (22, 13657), (23, 13660), (25, 13672), (43, 13873), (46, 13894),

Gene: Kamiyu_16 Start: 13935, Stop: 14540, Start Num: 9

Candidate Starts for Kamiyu_16:

(Start: 9 @13935 has 72 MA's), (12, 13956), (18, 14052), (30, 14172), (42, 14334), (47, 14373), (49, 14391),

Gene: Kronus_15 Start: 14547, Stop: 15152, Start Num: 9

Candidate Starts for Kronus_15:

(Start: 9 @14547 has 72 MA's), (12, 14568), (18, 14664), (30, 14784), (42, 14946), (47, 14985), (49, 15003),

Gene: LestyG_16 Start: 13968, Stop: 14573, Start Num: 9

Candidate Starts for LestyG_16:

(Start: 9 @13968 has 72 MA's), (12, 13989), (18, 14085), (30, 14205), (42, 14367), (47, 14406), (49, 14424),

Gene: Ligma_13 Start: 12434, Stop: 12952, Start Num: 9

Candidate Starts for Ligma_13:

(Start: 9 @12434 has 72 MA's), (15, 12488), (51, 12869), (55, 12899),

Gene: LittleMunchkin_14 Start: 13719, Stop: 14384, Start Num: 9

Candidate Starts for LittleMunchkin_14:

(Start: 9 @13719 has 72 MA's), (15, 13773), (19, 13842), (29, 13935), (36, 14049), (37, 14055), (44, 14136), (45, 14142), (50, 14175), (56, 14226), (59, 14286), (60, 14307),

Gene: MakoManhole_15 Start: 13902, Stop: 14384, Start Num: 9

Candidate Starts for MakoManhole_15:

(3, 13398), (4, 13692), (5, 13761), (Start: 9 @13902 has 72 MA's), (15, 13956), (24, 14058), (26, 14082), (51, 14352),

Gene: Mao1_11 Start: 11616, Stop: 11987, Start Num: 8

Candidate Starts for Mao1_11:

(Start: 8 @11616 has 3 MA's), (Start: 9 @11622 has 72 MA's), (10, 11634), (11, 11640), (12, 11643), (17, 11712), (19, 11742), (21, 11766), (24, 11778), (51, 11949), (52, 11952),

Gene: Mariokart_13 Start: 12478, Stop: 12855, Start Num: 9

Candidate Starts for Mariokart_13:

(Start: 9 @12478 has 72 MA's), (13, 12502), (15, 12532), (40, 12712), (47, 12784), (48, 12799), (51, 12817),

Gene: Marley1013_16 Start: 14748, Stop: 15353, Start Num: 9

Candidate Starts for Marley1013_16:

(Start: 9 @14748 has 72 MA's), (12, 14769), (18, 14865), (42, 15147), (49, 15204),

Gene: Marlia_16 Start: 13950, Stop: 14555, Start Num: 9

Candidate Starts for Marlia_16:

(Start: 9 @13950 has 72 MA's), (12, 13971), (18, 14067), (30, 14187), (42, 14349), (49, 14406),

Gene: Mask_12 Start: 11617, Stop: 11988, Start Num: 8

Candidate Starts for Mask_12:

(Start: 8 @11617 has 3 MA's), (Start: 9 @11623 has 72 MA's), (10, 11635), (11, 11641), (12, 11644), (17, 11713), (19, 11743), (21, 11767), (24, 11779), (51, 11950), (52, 11953),

Gene: Megabear_11 Start: 13462, Stop: 13845, Start Num: 9

Candidate Starts for Megabear_11:

(Start: 9 @13462 has 72 MA's), (11, 13480), (14, 13510), (16, 13543), (18, 13579), (22, 13612), (23, 13615), (25, 13627), (43, 13816), (46, 13837),

Gene: MmasiCarm_16 Start: 13961, Stop: 14566, Start Num: 9

Candidate Starts for MmasiCarm_16:

(Start: 9 @13961 has 72 MA's), (12, 13982), (18, 14078), (30, 14198), (42, 14360), (47, 14399), (49, 14417),

Gene: Mortcellus_15 Start: 14602, Stop: 15207, Start Num: 9

Candidate Starts for Mortcellus_15:

(Start: 9 @14602 has 72 MA's), (12, 14623), (18, 14719), (30, 14839), (42, 15001), (49, 15058),

Gene: Morty007_16 Start: 14748, Stop: 15353, Start Num: 9

Candidate Starts for Morty007_16:

(Start: 9 @14748 has 72 MA's), (12, 14769), (18, 14865), (42, 15147), (49, 15204),

Gene: MossRose_15 Start: 13902, Stop: 14363, Start Num: 9

Candidate Starts for MossRose_15:

(3, 13398), (4, 13692), (5, 13761), (Start: 9 @13902 has 72 MA's), (15, 13956), (24, 14058), (26, 14082), (51, 14331),

Gene: NHagos_13 Start: 12375, Stop: 12854, Start Num: 9

Candidate Starts for NHagos_13:

(Start: 9 @12375 has 72 MA's), (13, 12399), (15, 12429), (24, 12534), (39, 12693),

Gene: Neos5_16 Start: 14754, Stop: 15359, Start Num: 9

Candidate Starts for Neos5_16:

(Start: 9 @14754 has 72 MA's), (12, 14775), (18, 14871), (42, 15153), (47, 15192), (49, 15210),

Gene: Nozo_16 Start: 14729, Stop: 15334, Start Num: 9

Candidate Starts for Nozo_16:

(Start: 9 @14729 has 72 MA's), (12, 14750), (18, 14846), (30, 14966), (42, 15128), (47, 15167), (49, 15185),

Gene: Obutu_16 Start: 13959, Stop: 14564, Start Num: 9

Candidate Starts for Obutu_16:

(Start: 9 @13959 has 72 MA's), (12, 13980), (18, 14076), (30, 14196), (42, 14358), (47, 14397), (49, 14415),

Gene: Olivio_15 Start: 13813, Stop: 14418, Start Num: 9

Candidate Starts for Olivio_15:

(Start: 9 @13813 has 72 MA's), (12, 13834), (18, 13930), (30, 14050), (42, 14212), (47, 14251), (49, 14269),

Gene: OrangeOswald_16 Start: 13964, Stop: 14569, Start Num: 9

Candidate Starts for OrangeOswald_16:

(Start: 9 @13964 has 72 MA's), (12, 13985), (18, 14081), (30, 14201), (42, 14363), (47, 14402), (49, 14420),

Gene: PR_11 Start: 13474, Stop: 13872, Start Num: 9

Candidate Starts for PR_11:

(Start: 9 @13474 has 72 MA's), (11, 13492), (14, 13522), (16, 13555), (18, 13591), (22, 13624), (23, 13627), (25, 13639), (43, 13843), (46, 13864),

Gene: Phaedrus_15 Start: 13882, Stop: 14487, Start Num: 9

Candidate Starts for Phaedrus_15:

(Start: 9 @13882 has 72 MA's), (12, 13903), (18, 13999), (30, 14119), (42, 14281), (47, 14320), (49, 14338),

Gene: Phayeta_16 Start: 13840, Stop: 14445, Start Num: 9

Candidate Starts for Phayeta_16:

(Start: 9 @13840 has 72 MA's), (12, 13861), (18, 13957), (30, 14077), (42, 14239), (47, 14278), (49, 14296),

Gene: Philly_15 Start: 13830, Stop: 14435, Start Num: 9

Candidate Starts for Philly_15:

(Start: 9 @13830 has 72 MA's), (12, 13851), (18, 13947), (20, 13956), (30, 14067), (42, 14229), (47, 14268), (49, 14286),

Gene: Phlyer_16 Start: 14698, Stop: 15303, Start Num: 9

Candidate Starts for Phlyer_16:

(Start: 9 @14698 has 72 MA's), (12, 14719), (18, 14815), (30, 14935), (42, 15097), (47, 15136), (49, 15154),

Gene: Pipefish_16 Start: 14848, Stop: 15453, Start Num: 9
Candidate Starts for Pipefish_16:
(Start: 9 @14848 has 72 MA's), (12, 14869), (18, 14965), (42, 15247),

Gene: RagingRooster_16 Start: 13965, Stop: 14570, Start Num: 9
Candidate Starts for RagingRooster_16:
(Start: 9 @13965 has 72 MA's), (12, 13986), (18, 14082), (30, 14202), (42, 14364), (47, 14403), (49, 14421),

Gene: Rita1961_16 Start: 13960, Stop: 14565, Start Num: 9
Candidate Starts for Rita1961_16:
(Start: 9 @13960 has 72 MA's), (12, 13981), (18, 14077), (30, 14197), (42, 14359), (49, 14416),

Gene: RomaT_16 Start: 14745, Stop: 15350, Start Num: 9
Candidate Starts for RomaT_16:
(Start: 9 @14745 has 72 MA's), (12, 14766), (18, 14862), (30, 14982), (42, 15144), (47, 15183), (49, 15201),

Gene: Sejanus_12 Start: 12433, Stop: 12921, Start Num: 8
Candidate Starts for Sejanus_12:
(Start: 8 @12433 has 3 MA's), (Start: 9 @12439 has 72 MA's), (10, 12451), (11, 12457), (12, 12460), (17, 12529), (19, 12559), (21, 12583), (24, 12595), (28, 12643), (33, 12709), (35, 12745), (51, 12883), (52, 12886),

Gene: Shatter_13 Start: 12434, Stop: 12952, Start Num: 9
Candidate Starts for Shatter_13:
(Start: 9 @12434 has 72 MA's), (15, 12488), (51, 12869), (55, 12899),

Gene: Shenandoah_16 Start: 13943, Stop: 14548, Start Num: 9
Candidate Starts for Shenandoah_16:
(Start: 9 @13943 has 72 MA's), (12, 13964), (18, 14060), (30, 14180), (42, 14342), (47, 14381), (49, 14399),

Gene: Sisko_13 Start: 12759, Stop: 13280, Start Num: 9
Candidate Starts for Sisko_13:
(7, 12738), (Start: 9 @12759 has 72 MA's), (15, 12813), (19, 12882), (24, 12918), (51, 13125), (54, 13152), (58, 13203),

Gene: SlippinJimmy_16 Start: 14729, Stop: 15334, Start Num: 9
Candidate Starts for SlippinJimmy_16:
(Start: 9 @14729 has 72 MA's), (12, 14750), (18, 14846), (30, 14966), (42, 15128), (47, 15167), (49, 15185),

Gene: SwainyDoc_16 Start: 13962, Stop: 14567, Start Num: 9
Candidate Starts for SwainyDoc_16:
(Start: 9 @13962 has 72 MA's), (12, 13983), (18, 14079), (20, 14088), (30, 14199), (42, 14361), (47, 14400), (49, 14418),

Gene: SynergyX_16 Start: 13965, Stop: 14570, Start Num: 9
Candidate Starts for SynergyX_16:
(Start: 9 @13965 has 72 MA's), (12, 13986), (18, 14082), (30, 14202), (42, 14364), (47, 14403), (49, 14421),

Gene: Taptic_11 Start: 13462, Stop: 13845, Start Num: 9

Candidate Starts for Taptic_11:

(Start: 9 @13462 has 72 MA's), (11, 13480), (14, 13510), (16, 13543), (18, 13579), (22, 13612), (23, 13615), (25, 13627), (43, 13816), (46, 13837),

Gene: TinyTerror_16 Start: 13964, Stop: 14569, Start Num: 9

Candidate Starts for TinyTerror_16:

(Start: 9 @13964 has 72 MA's), (12, 13985), (18, 14081), (30, 14201), (42, 14363), (47, 14402), (49, 14420),

Gene: Tydolla_16 Start: 14702, Stop: 15307, Start Num: 9

Candidate Starts for Tydolla_16:

(Start: 9 @14702 has 72 MA's), (12, 14723), (18, 14819), (30, 14939), (42, 15101), (47, 15140), (49, 15158),

Gene: Wooper_15 Start: 13905, Stop: 14372, Start Num: 9

Candidate Starts for Wooper_15:

(3, 13401), (4, 13695), (5, 13764), (Start: 9 @13905 has 72 MA's), (15, 13959), (24, 14061), (26, 14085), (51, 14340),

Gene: Yago84_13 Start: 12768, Stop: 13289, Start Num: 9

Candidate Starts for Yago84_13:

(1, 12180), (2, 12183), (3, 12273), (7, 12747), (Start: 9 @12768 has 72 MA's), (15, 12822), (19, 12891), (24, 12927), (51, 13134), (54, 13161),

Gene: Yahalom_16 Start: 13976, Stop: 14581, Start Num: 9

Candidate Starts for Yahalom_16:

(Start: 9 @13976 has 72 MA's), (12, 13997), (18, 14093), (42, 14375), (49, 14432),

Gene: Yeshua_15 Start: 13912, Stop: 14349, Start Num: 9

Candidate Starts for Yeshua_15:

(4, 13702), (5, 13771), (Start: 9 @13912 has 72 MA's), (15, 13966), (24, 14068), (27, 14098), (51, 14317),

Gene: Yinz_16 Start: 14003, Stop: 14608, Start Num: 9

Candidate Starts for Yinz_16:

(Start: 9 @14003 has 72 MA's), (12, 14024), (18, 14120), (30, 14240), (42, 14402), (47, 14441), (49, 14459),