Pham 345727


1: StAugustine_51
2: Causa_53
3: Indlovu_33
4: BirdsNest_37
5: Zenteno07_39
6: LittleMinkey_40
7: LestyG_74 + 15
8: Athena_78 + 16
9: SwainyDoc_77
10: Baloo_75 + 4
11: Daisy_75 + 1
12: Abinghost_76 + 9
13: Kronus_76 + 1
14: Audrey_76
15: Glubnar_77
16: MmasiCarm_77
17: Saguaro_36
18: Thonko_34
19: Quesadilla_37
20: PenguinLover67_37

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 345727 Report

This analysis was run 11/14/26 on database version 672.

Pham number 345727 has 66 members, 4 are drafts.

Phages represented in each track:
• Track 1 : StAugustine_51
• Track 2 : Causa_53
• Track 3 : Indlovu_33
• Track 4 : BirdsNest_37
• Track 5 : Zenteno07_39
• Track 6 : LittleMinkey_40
• Track 7 : LestyG_74, Tydolla_72, Jackstina_71, HarveySr_75, Casbah_76, Philly_75, Chentzyk_78, Kamiyu_76, Marlia_77, Neos5_76, Akoma_76, Yinz_76, GlenHope_77, Phaedrus_71, Mortcellus_76, Mulaychimus_77
• Track 8 : 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 9 : SwainyDoc_77
• Track 10 : Baloo_75, Deenasa_76, OrangeOswald_76, Nozo_76, ChaChing_76
• Track 11 : Daisy_75, Heathcliff_76
• Track 12 : Abinghost_76, Devonte_75, TinyTerror_77, Gadjet_77, Bernardo_77, SynergyX_76, Chandler_76, Yahalom_74, Shenandoah_75, RagingRooster_75
• Track 13 : Kronus_76, Phayeta_79
• Track 14 : Audrey_76
• Track 15 : Glubnar_77
• Track 16 : MmasiCarm_77
• Track 17 : Saguaro_36
• Track 18 : Thonko_34
• Track 19 : Quesadilla_37
• Track 20 : PenguinLover67_37

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

The start number called the most often in the published annotations is 32, it was called in 43 of the 62 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, Gadjet_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:
• BirdsNest_37, Causa_53, Indlovu_33, LittleMinkey_40, PenguinLover67_37, Quesadilla_37, Saguaro_36, StAugustine_51, Thonko_34, Zenteno07_39,

Summary by start number:

Start 31:
• Found in 56 of 66 (84.8%) of genes in pham
• Manual Annotations of this start: 10 of 62
• 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 32:
• Found in 56 of 66 (84.8%) of genes in pham
• Manual Annotations of this start: 43 of 62
• 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), Gadjet_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),

Start 33:
• Found in 4 of 66 (6.1%) of genes in pham
• Manual Annotations of this start: 4 of 62
• Called 100.0% of time when present
• Phage (with cluster) where this start called: PenguinLover67_37 (B9), Quesadilla_37 (B9), Saguaro_36 (B7), Thonko_34 (B8),

Start 34:
• Found in 2 of 66 (3.0%) of genes in pham
• Manual Annotations of this start: 2 of 62
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Causa_53 (AI), StAugustine_51 (AI),

Start 36:
• Found in 7 of 66 (10.6%) of genes in pham
• Manual Annotations of this start: 3 of 62
• Called 57.1% of time when present
• Phage (with cluster) where this start called: BirdsNest_37 (B13), Indlovu_33 (B11), LittleMinkey_40 (B13), Zenteno07_39 (B13),

Summary by clusters:

There are 7 clusters represented in this pham: AI, B3, B7, B13, B11, B8, B9,

Info for manual annotations of cluster AI:
•Start number 34 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster B11:
•Start number 36 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B13:
•Start number 36 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B3:
•Start number 31 was manually annotated 10 times for cluster B3.
•Start number 32 was manually annotated 43 times for cluster B3.

Info for manual annotations of cluster B7:
•Start number 33 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:
•Start number 33 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:
•Start number 33 was manually annotated 2 times for cluster B9.

Gene Information:

Gene: Abinghost_76 Start: 59516, Stop: 59863, Start Num: 32
Candidate Starts for Abinghost_76:
(Start: 31 @59507 has 10 MA's), (Start: 32 @59516 has 43 MA's), (37, 59564), (38, 59588), (40, 59600), (42, 59627), (44, 59654), (47, 59675), (48, 59684), (49, 59690), (50, 59702), (51, 59711), (53, 59750), (56, 59783),

Gene: Akoma_76 Start: 59556, Stop: 59903, Start Num: 32
Candidate Starts for Akoma_76:
(Start: 31 @59547 has 10 MA's), (Start: 32 @59556 has 43 MA's), (37, 59604), (38, 59628), (40, 59640), (42, 59667), (44, 59694), (47, 59715), (48, 59724), (49, 59730), (50, 59742), (51, 59751),

Gene: Athena_78 Start: 60291, Stop: 60638, Start Num: 32
Candidate Starts for Athena_78:
(Start: 31 @60282 has 10 MA's), (Start: 32 @60291 has 43 MA's), (37, 60339), (38, 60363), (40, 60375), (42, 60402), (44, 60429), (47, 60450), (48, 60459), (49, 60465), (50, 60477), (51, 60486), (53,

60525),

Gene: Audrey_76 Start: 59536, Stop: 59892, Start Num: 31
Candidate Starts for Audrey_76:
(Start: 31 @59536 has 10 MA's), (Start: 32 @59545 has 43 MA's), (37, 59593), (38, 59617), (40, 59629), (42, 59656), (44, 59683), (47, 59704), (48, 59713), (49, 59719), (50, 59731), (51, 59740), (53, 59779), (56, 59812), (61, 59854),

Gene: Baloo_75 Start: 59379, Stop: 59744, Start Num: 31
Candidate Starts for Baloo_75:
(Start: 31 @59379 has 10 MA's), (Start: 32 @59388 has 43 MA's), (37, 59445), (38, 59469), (40, 59481), (42, 59508), (44, 59535), (47, 59556), (48, 59565), (49, 59571), (50, 59583), (51, 59592), (53, 59631),

Gene: Ben11_76 Start: 59772, Stop: 60119, Start Num: 32
Candidate Starts for Ben11_76:
(Start: 31 @59763 has 10 MA's), (Start: 32 @59772 has 43 MA's), (37, 59820), (38, 59844), (40, 59856), (42, 59883), (44, 59910), (47, 59931), (48, 59940), (49, 59946), (50, 59958), (51, 59967), (53, 60006),

Gene: Bernardo_77 Start: 59747, Stop: 60082, Start Num: 32
Candidate Starts for Bernardo_77:
(Start: 31 @59738 has 10 MA's), (Start: 32 @59747 has 43 MA's), (37, 59783), (38, 59807), (40, 59819), (42, 59846), (44, 59873), (47, 59894), (48, 59903), (49, 59909), (50, 59921), (51, 59930), (53, 59969), (56, 60002),

Gene: BirdsNest_37 Start: 33252, Stop: 32962, Start Num: 36
Candidate Starts for BirdsNest_37:
(Start: 36 @33252 has 3 MA's), (49, 33123), (52, 33099), (62, 32979),

Gene: Briakila_76 Start: 59755, Stop: 60090, Start Num: 32
Candidate Starts for Briakila_76:
(Start: 31 @59746 has 10 MA's), (Start: 32 @59755 has 43 MA's), (37, 59791), (38, 59815), (40, 59827), (42, 59854), (44, 59881), (47, 59902), (48, 59911), (49, 59917), (50, 59929), (51, 59938), (53, 59977),

Gene: Casbah_76 Start: 59856, Stop: 60203, Start Num: 32
Candidate Starts for Casbah_76:
(Start: 31 @59847 has 10 MA's), (Start: 32 @59856 has 43 MA's), (37, 59904), (38, 59928), (40, 59940), (42, 59967), (44, 59994), (47, 60015), (48, 60024), (49, 60030), (50, 60042), (51, 60051),

Gene: Causa_53 Start: 43799, Stop: 44098, Start Num: 34
Candidate Starts for Causa_53:
(Start: 34 @43799 has 2 MA's), (45, 43910), (49, 43934),

Gene: ChaChing_76 Start: 59564, Stop: 59908, Start Num: 31
Candidate Starts for ChaChing_76:
(Start: 31 @59564 has 10 MA's), (Start: 32 @59573 has 43 MA's), (37, 59609), (38, 59633), (40, 59645), (42, 59672), (44, 59699), (47, 59720), (48, 59729), (49, 59735), (50, 59747), (51, 59756), (53, 59795),

Gene: Chalmers_75 Start: 60003, Stop: 60338, Start Num: 32
Candidate Starts for Chalmers_75:

(Start: 31 @59994 has 10 MA's), (Start: 32 @60003 has 43 MA's), (37, 60039), (38, 60063), (40, 60075), (42, 60102), (44, 60129), (47, 60150), (48, 60159), (49, 60165), (50, 60177), (51, 60186), (53, 60225),

Gene: Chandler_76 Start: 60332, Stop: 60679, Start Num: 32
Candidate Starts for Chandler_76:
(Start: 31 @60323 has 10 MA's), (Start: 32 @60332 has 43 MA's), (37, 60380), (38, 60404), (40, 60416), (42, 60443), (44, 60470), (47, 60491), (48, 60500), (49, 60506), (50, 60518), (51, 60527), (53, 60566), (56, 60599),

Gene: Chentzyk_78 Start: 60499, Stop: 60846, Start Num: 32
Candidate Starts for Chentzyk_78:
(Start: 31 @60490 has 10 MA's), (Start: 32 @60499 has 43 MA's), (37, 60547), (38, 60571), (40, 60583), (42, 60610), (44, 60637), (47, 60658), (48, 60667), (49, 60673), (50, 60685), (51, 60694),

Gene: Compostia_75 Start: 60001, Stop: 60348, Start Num: 32
Candidate Starts for Compostia_75:
(Start: 31 @59992 has 10 MA's), (Start: 32 @60001 has 43 MA's), (37, 60049), (38, 60073), (40, 60085), (42, 60112), (44, 60139), (47, 60160), (48, 60169), (49, 60175), (50, 60187), (51, 60196), (53, 60235),

Gene: Corofin_76 Start: 59579, Stop: 59914, Start Num: 32
Candidate Starts for Corofin_76:
(Start: 31 @59570 has 10 MA's), (Start: 32 @59579 has 43 MA's), (37, 59615), (38, 59639), (40, 59651), (42, 59678), (44, 59705), (47, 59726), (48, 59735), (49, 59741), (50, 59753), (51, 59762), (53, 59801),

Gene: Daisy_75 Start: 59118, Stop: 59465, Start Num: 32
Candidate Starts for Daisy_75:
(Start: 31 @59109 has 10 MA's), (Start: 32 @59118 has 43 MA's), (37, 59166), (38, 59190), (40, 59202), (42, 59229), (44, 59256), (47, 59277), (48, 59286), (49, 59292), (50, 59304), (51, 59313), (53, 59352), (56, 59385), (61, 59427),

Gene: Deenasa_76 Start: 60458, Stop: 60814, Start Num: 31
Candidate Starts for Deenasa_76:
(Start: 31 @60458 has 10 MA's), (Start: 32 @60467 has 43 MA's), (37, 60515), (38, 60539), (40, 60551), (42, 60578), (44, 60605), (47, 60626), (48, 60635), (49, 60641), (50, 60653), (51, 60662), (53, 60701),

Gene: Devonte_75 Start: 59195, Stop: 59530, Start Num: 32
Candidate Starts for Devonte_75:
(Start: 31 @59186 has 10 MA's), (Start: 32 @59195 has 43 MA's), (37, 59231), (38, 59255), (40, 59267), (42, 59294), (44, 59321), (47, 59342), (48, 59351), (49, 59357), (50, 59369), (51, 59378), (53, 59417), (56, 59450),

Gene: Gadjet_77 Start: 59930, Stop: 60265, Start Num: 32
Candidate Starts for Gadjet_77:
(Start: 31 @59921 has 10 MA's), (Start: 32 @59930 has 43 MA's), (37, 59966), (38, 59990), (40, 60002), (42, 60029), (44, 60056), (47, 60077), (48, 60086), (49, 60092), (50, 60104), (51, 60113), (53, 60152), (56, 60185),

Gene: Gervas_77 Start: 60024, Stop: 60359, Start Num: 32
Candidate Starts for Gervas_77:

(Start: 31 @60015 has 10 MA's), (Start: 32 @60024 has 43 MA's), (37, 60060), (38, 60084), (40, 60096), (42, 60123), (44, 60150), (47, 60171), (48, 60180), (49, 60186), (50, 60198), (51, 60207), (53, 60246),

Gene: GlenHope_77 Start: 59591, Stop: 59938, Start Num: 32
Candidate Starts for GlenHope_77:
(Start: 31 @59582 has 10 MA's), (Start: 32 @59591 has 43 MA's), (37, 59639), (38, 59663), (40, 59675), (42, 59702), (44, 59729), (47, 59750), (48, 59759), (49, 59765), (50, 59777), (51, 59786),

Gene: Glubnar_77 Start: 59441, Stop: 59797, Start Num: 31
Candidate Starts for Glubnar_77:
(Start: 31 @59441 has 10 MA's), (Start: 32 @59450 has 43 MA's), (37, 59498), (38, 59522), (40, 59534), (41, 59558), (42, 59561), (44, 59588), (47, 59609), (48, 59618), (49, 59624), (50, 59636), (51, 59645),

Gene: Halfpint_75 Start: 59333, Stop: 59680, Start Num: 32
Candidate Starts for Halfpint_75:
(Start: 31 @59324 has 10 MA's), (Start: 32 @59333 has 43 MA's), (37, 59381), (38, 59405), (40, 59417), (42, 59444), (44, 59471), (47, 59492), (48, 59501), (49, 59507), (50, 59519), (51, 59528), (53, 59567),

Gene: HarveySr_75 Start: 59102, Stop: 59449, Start Num: 32
Candidate Starts for HarveySr_75:
(Start: 31 @59093 has 10 MA's), (Start: 32 @59102 has 43 MA's), (37, 59150), (38, 59174), (40, 59186), (42, 59213), (44, 59240), (47, 59261), (48, 59270), (49, 59276), (50, 59288), (51, 59297),

Gene: Heathcliff_76 Start: 59512, Stop: 59859, Start Num: 32
Candidate Starts for Heathcliff_76:
(Start: 31 @59503 has 10 MA's), (Start: 32 @59512 has 43 MA's), (37, 59560), (38, 59584), (40, 59596), (42, 59623), (44, 59650), (47, 59671), (48, 59680), (49, 59686), (50, 59698), (51, 59707), (53, 59746), (56, 59779), (61, 59821),

Gene: Indlovu_33 Start: 33712, Stop: 33434, Start Num: 36
Candidate Starts for Indlovu_33:
(Start: 36 @33712 has 3 MA's), (39, 33679), (40, 33673), (54, 33517), (55, 33508), (57, 33484), (60, 33472),

Gene: Jackstina_71 Start: 59438, Stop: 59773, Start Num: 32
Candidate Starts for Jackstina_71:
(Start: 31 @59429 has 10 MA's), (Start: 32 @59438 has 43 MA's), (37, 59474), (38, 59498), (40, 59510), (42, 59537), (44, 59564), (47, 59585), (48, 59594), (49, 59600), (50, 59612), (51, 59621),

Gene: Kamiyu_76 Start: 59515, Stop: 59862, Start Num: 32
Candidate Starts for Kamiyu_76:
(Start: 31 @59506 has 10 MA's), (Start: 32 @59515 has 43 MA's), (37, 59563), (38, 59587), (40, 59599), (42, 59626), (44, 59653), (47, 59674), (48, 59683), (49, 59689), (50, 59701), (51, 59710),

Gene: Kronus_76 Start: 60602, Stop: 60946, Start Num: 31
Candidate Starts for Kronus_76:
(Start: 31 @60602 has 10 MA's), (Start: 32 @60611 has 43 MA's), (37, 60647), (38, 60671), (40, 60683), (42, 60710), (44, 60737), (47, 60758), (48, 60767), (49, 60773), (50, 60785), (51, 60794),

Gene: LestyG_74 Start: 59085, Stop: 59432, Start Num: 32

Candidate Starts for LestyG_74:
(Start: 31 @59076 has 10 MA's), (Start: 32 @59085 has 43 MA's), (37, 59133), (38, 59157), (40, 59169), (42, 59196), (44, 59223), (47, 59244), (48, 59253), (49, 59259), (50, 59271), (51, 59280),

Gene: LittleMinkey_40 Start: 33833, Stop: 33543, Start Num: 36
Candidate Starts for LittleMinkey_40:
(Start: 36 @33833 has 3 MA's), (43, 33743), (51, 33683), (52, 33680), (62, 33560),

Gene: Marley1013_77 Start: 60463, Stop: 60798, Start Num: 32
Candidate Starts for Marley1013_77:
(Start: 31 @60454 has 10 MA's), (Start: 32 @60463 has 43 MA's), (37, 60499), (38, 60523), (40, 60535), (42, 60562), (44, 60589), (47, 60610), (48, 60619), (49, 60625), (50, 60637), (51, 60646), (53, 60685),

Gene: Marlia_77 Start: 59984, Stop: 60331, Start Num: 32
Candidate Starts for Marlia_77:
(Start: 31 @59975 has 10 MA's), (Start: 32 @59984 has 43 MA's), (37, 60032), (38, 60056), (40, 60068), (42, 60095), (44, 60122), (47, 60143), (48, 60152), (49, 60158), (50, 60170), (51, 60179),

Gene: MmasiCarm_77 Start: 59957, Stop: 60301, Start Num: 31
Candidate Starts for MmasiCarm_77:
(Start: 31 @59957 has 10 MA's), (Start: 32 @59966 has 43 MA's), (37, 60002), (38, 60026), (40, 60038), (42, 60065), (44, 60092), (47, 60113), (48, 60122), (49, 60128), (50, 60140), (51, 60149), (53, 60188), (56, 60221),

Gene: Mortcellus_76 Start: 60670, Stop: 61017, Start Num: 32
Candidate Starts for Mortcellus_76:
(Start: 31 @60661 has 10 MA's), (Start: 32 @60670 has 43 MA's), (37, 60718), (38, 60742), (40, 60754), (42, 60781), (44, 60808), (47, 60829), (48, 60838), (49, 60844), (50, 60856), (51, 60865),

Gene: Morty007_75 Start: 60463, Stop: 60798, Start Num: 32
Candidate Starts for Morty007_75:
(Start: 31 @60454 has 10 MA's), (Start: 32 @60463 has 43 MA's), (37, 60499), (38, 60523), (40, 60535), (42, 60562), (44, 60589), (47, 60610), (48, 60619), (49, 60625), (50, 60637), (51, 60646), (53, 60685),

Gene: Mulaychimus_77 Start: 59976, Stop: 60311, Start Num: 32
Candidate Starts for Mulaychimus_77:
(Start: 31 @59967 has 10 MA's), (Start: 32 @59976 has 43 MA's), (37, 60012), (38, 60036), (40, 60048), (42, 60075), (44, 60102), (47, 60123), (48, 60132), (49, 60138), (50, 60150), (51, 60159),

Gene: Neos5_76 Start: 59925, Stop: 60260, Start Num: 32
Candidate Starts for Neos5_76:
(Start: 31 @59916 has 10 MA's), (Start: 32 @59925 has 43 MA's), (37, 59961), (38, 59985), (40, 59997), (42, 60024), (44, 60051), (47, 60072), (48, 60081), (49, 60087), (50, 60099), (51, 60108),

Gene: Nozo_76 Start: 60313, Stop: 60669, Start Num: 31
Candidate Starts for Nozo_76:
(Start: 31 @60313 has 10 MA's), (Start: 32 @60322 has 43 MA's), (37, 60370), (38, 60394), (40, 60406), (42, 60433), (44, 60460), (47, 60481), (48, 60490), (49, 60496), (50, 60508), (51, 60517), (53, 60556),

Gene: Obutu_78 Start: 60137, Stop: 60472, Start Num: 32

Candidate Starts for Obutu_78:
(Start: 31 @60128 has 10 MA's), (Start: 32 @60137 has 43 MA's), (37, 60173), (38, 60197), (40, 60209), (42, 60236), (44, 60263), (47, 60284), (48, 60293), (49, 60299), (50, 60311), (51, 60320), (53, 60359),

Gene: Olivio_76 Start: 59778, Stop: 60113, Start Num: 32
Candidate Starts for Olivio_76:
(Start: 31 @59769 has 10 MA's), (Start: 32 @59778 has 43 MA's), (37, 59814), (38, 59838), (40, 59850), (42, 59877), (44, 59904), (47, 59925), (48, 59934), (49, 59940), (50, 59952), (51, 59961), (53, 60000),

Gene: OrangeOswald_76 Start: 59547, Stop: 59903, Start Num: 31
Candidate Starts for OrangeOswald_76:
(Start: 31 @59547 has 10 MA's), (Start: 32 @59556 has 43 MA's), (37, 59604), (38, 59628), (40, 59640), (42, 59667), (44, 59694), (47, 59715), (48, 59724), (49, 59730), (50, 59742), (51, 59751), (53, 59790),

Gene: PenguinLover67_37 Start: 36194, Stop: 35862, Start Num: 33
Candidate Starts for PenguinLover67_37:
(20, 36395), (21, 36377), (22, 36365), (24, 36356), (25, 36347), (26, 36344), (28, 36305), (29, 36272), (Start: 33 @36194 has 4 MA's), (Start: 36 @36185 has 3 MA's), (40, 36146), (45, 36080), (48, 36062), (50, 36044), (62, 35921),

Gene: Phaedrus_71 Start: 58985, Stop: 59320, Start Num: 32
Candidate Starts for Phaedrus_71:
(Start: 31 @58976 has 10 MA's), (Start: 32 @58985 has 43 MA's), (37, 59021), (38, 59045), (40, 59057), (42, 59084), (44, 59111), (47, 59132), (48, 59141), (49, 59147), (50, 59159), (51, 59168),

Gene: Phayeta_79 Start: 60033, Stop: 60389, Start Num: 31
Candidate Starts for Phayeta_79:
(Start: 31 @60033 has 10 MA's), (Start: 32 @60042 has 43 MA's), (37, 60090), (38, 60114), (40, 60126), (42, 60153), (44, 60180), (47, 60201), (48, 60210), (49, 60216), (50, 60228), (51, 60237),

Gene: Philly_75 Start: 59417, Stop: 59752, Start Num: 32
Candidate Starts for Philly_75:
(Start: 31 @59408 has 10 MA's), (Start: 32 @59417 has 43 MA's), (37, 59453), (38, 59477), (40, 59489), (42, 59516), (44, 59543), (47, 59564), (48, 59573), (49, 59579), (50, 59591), (51, 59600),

Gene: Phlyer_76 Start: 60268, Stop: 60615, Start Num: 32
Candidate Starts for Phlyer_76:
(Start: 31 @60259 has 10 MA's), (Start: 32 @60268 has 43 MA's), (37, 60316), (38, 60340), (40, 60352), (42, 60379), (44, 60406), (47, 60427), (48, 60436), (49, 60442), (50, 60454), (51, 60463), (53, 60502),

Gene: Pipefish_78 Start: 60676, Stop: 61011, Start Num: 32
Candidate Starts for Pipefish_78:
(Start: 31 @60667 has 10 MA's), (Start: 32 @60676 has 43 MA's), (37, 60712), (38, 60736), (40, 60748), (42, 60775), (44, 60802), (47, 60823), (48, 60832), (49, 60838), (50, 60850), (51, 60859), (53, 60898),

Gene: Quesadilla_37 Start: 36205, Stop: 35873, Start Num: 33
Candidate Starts for Quesadilla_37:

(1, 36784), (2, 36781), (3, 36775), (4, 36721), (5, 36682), (6, 36655), (7, 36628), (8, 36619), (9, 36592), (10, 36586), (11, 36577), (12, 36556), (13, 36541), (14, 36535), (15, 36532), (16, 36496), (17, 36490), (18, 36460), (19, 36445), (20, 36406), (23, 36373), (25, 36358), (26, 36355), (27, 36352), (28, 36316), (30, 36268), (Start: 33 @36205 has 4 MA's), (Start: 36 @36196 has 3 MA's), (40, 36157), (42, 36130), (48, 36073), (49, 36067), (59, 35959), (62, 35932),

Gene: RagingRooster_75 Start: 59248, Stop: 59595, Start Num: 32
Candidate Starts for RagingRooster_75:
(Start: 31 @59239 has 10 MA's), (Start: 32 @59248 has 43 MA's), (37, 59296), (38, 59320), (40, 59332), (42, 59359), (44, 59386), (47, 59407), (48, 59416), (49, 59422), (50, 59434), (51, 59443), (53, 59482), (56, 59515),

Gene: Rita1961_77 Start: 59914, Stop: 60249, Start Num: 32
Candidate Starts for Rita1961_77:
(Start: 31 @59905 has 10 MA's), (Start: 32 @59914 has 43 MA's), (37, 59950), (38, 59974), (40, 59986), (42, 60013), (44, 60040), (47, 60061), (48, 60070), (49, 60076), (50, 60088), (51, 60097), (53, 60136),

Gene: RomaT_76 Start: 60122, Stop: 60469, Start Num: 32
Candidate Starts for RomaT_76:
(Start: 31 @60113 has 10 MA's), (Start: 32 @60122 has 43 MA's), (37, 60170), (38, 60194), (40, 60206), (42, 60233), (44, 60260), (47, 60281), (48, 60290), (49, 60296), (50, 60308), (51, 60317), (53, 60356),

Gene: Saguaro_36 Start: 35857, Stop: 35573, Start Num: 33
Candidate Starts for Saguaro_36:
(Start: 33 @35857 has 4 MA's), (Start: 36 @35848 has 3 MA's), (42, 35782), (50, 35707), (54, 35653), (55, 35644), (56, 35641), (57, 35620), (58, 35614),

Gene: Shenandoah_75 Start: 59180, Stop: 59515, Start Num: 32
Candidate Starts for Shenandoah_75:
(Start: 31 @59171 has 10 MA's), (Start: 32 @59180 has 43 MA's), (37, 59216), (38, 59240), (40, 59252), (42, 59279), (44, 59306), (47, 59327), (48, 59336), (49, 59342), (50, 59354), (51, 59363), (53, 59402), (56, 59435),

Gene: SlippinJimmy_79 Start: 60944, Stop: 61279, Start Num: 32
Candidate Starts for SlippinJimmy_79:
(Start: 31 @60935 has 10 MA's), (Start: 32 @60944 has 43 MA's), (37, 60980), (38, 61004), (40, 61016), (42, 61043), (44, 61070), (47, 61091), (48, 61100), (49, 61106), (50, 61118), (51, 61127), (53, 61166),

Gene: StAugustine_51 Start: 43814, Stop: 44113, Start Num: 34
Candidate Starts for StAugustine_51:
(Start: 34 @43814 has 2 MA's), (45, 43925), (49, 43949), (54, 44024),

Gene: SwainyDoc_77 Start: 59943, Stop: 60278, Start Num: 32
Candidate Starts for SwainyDoc_77:
(Start: 31 @59934 has 10 MA's), (Start: 32 @59943 has 43 MA's), (37, 59979), (38, 60003), (40, 60015), (41, 60039), (42, 60042), (44, 60069), (47, 60090), (48, 60099), (49, 60105), (50, 60117), (51, 60126),

Gene: SynergyX_76 Start: 59559, Stop: 59906, Start Num: 32
Candidate Starts for SynergyX_76:

(Start: 31 @59550 has 10 MA's), (Start: 32 @59559 has 43 MA's), (37, 59607), (38, 59631), (40, 59643), (42, 59670), (44, 59697), (47, 59718), (48, 59727), (49, 59733), (50, 59745), (51, 59754), (53, 59793), (56, 59826),

Gene: Thonko_34 Start: 32190, Stop: 31867, Start Num: 33
Candidate Starts for Thonko_34:
(Start: 33 @32190 has 4 MA's), (35, 32184), (44, 32097), (45, 32085), (46, 32082), (62, 31926),

Gene: TinyTerror_77 Start: 59982, Stop: 60329, Start Num: 32
Candidate Starts for TinyTerror_77:
(Start: 31 @59973 has 10 MA's), (Start: 32 @59982 has 43 MA's), (37, 60030), (38, 60054), (40, 60066), (42, 60093), (44, 60120), (47, 60141), (48, 60150), (49, 60156), (50, 60168), (51, 60177), (53, 60216), (56, 60249),

Gene: Tydolla_72 Start: 59550, Stop: 59885, Start Num: 32
Candidate Starts for Tydolla_72:
(Start: 31 @59541 has 10 MA's), (Start: 32 @59550 has 43 MA's), (37, 59586), (38, 59610), (40, 59622), (42, 59649), (44, 59676), (47, 59697), (48, 59706), (49, 59712), (50, 59724), (51, 59733),

Gene: Yahalom_74 Start: 59365, Stop: 59712, Start Num: 32
Candidate Starts for Yahalom_74:
(Start: 31 @59356 has 10 MA's), (Start: 32 @59365 has 43 MA's), (37, 59413), (38, 59437), (40, 59449), (42, 59476), (44, 59503), (47, 59524), (48, 59533), (49, 59539), (50, 59551), (51, 59560), (53, 59599), (56, 59632),

Gene: Yinz_76 Start: 59430, Stop: 59777, Start Num: 32
Candidate Starts for Yinz_76:
(Start: 31 @59421 has 10 MA's), (Start: 32 @59430 has 43 MA's), (37, 59478), (38, 59502), (40, 59514), (42, 59541), (44, 59568), (47, 59589), (48, 59598), (49, 59604), (50, 59616), (51, 59625),

Gene: Zenteno07_39 Start: 33925, Stop: 33635, Start Num: 36
Candidate Starts for Zenteno07_39:
(Start: 36 @33925 has 3 MA's), (43, 33835), (52, 33772), (62, 33652),