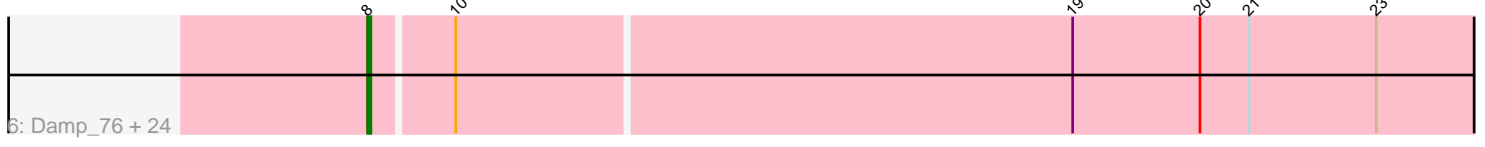
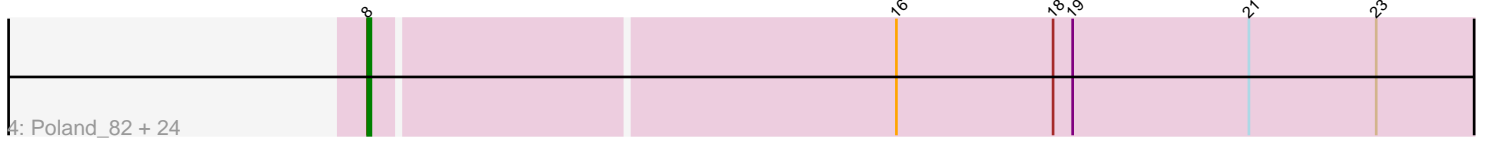
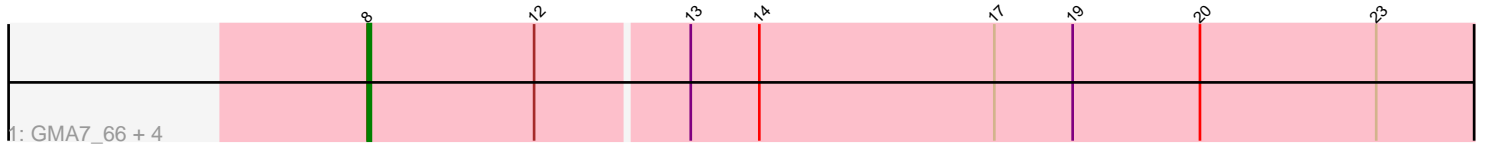


# Pham 193950



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 193950 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193950 has 78 members, 11 are drafts.

Phages represented in each track:

- Track 1 : GMA7\_66, HayZem\_77, Austin\_76, Amore2\_77, GTE7\_65
- Track 2 : Monty\_77
- Track 3 : BigShaq\_78, Eggsie\_76, Chelms\_78, PierreThree\_77, Diabla\_83, Dakiti\_79, RoyalG\_78, Linetti\_78, SteveFrench\_77, BenoitCattle\_78
- Track 4 : Poland\_82, CathyBurgh\_77, Hotorobo\_78, FelixAlejandro\_82, Squibbles\_77, Flakey\_77, Exiguo\_77, RemRem\_79, Barbochs\_77, Breezic\_78, Sam12\_77, Beaver\_81, CinnamonToast\_82, Adgers\_81, GourdThymes\_78, Gorko\_77, Sombrero\_79, Ekhein\_78, Boneham\_81, Jellybones\_79, John316\_81, Lizzo\_78, BirksAndSocks\_82, Butterball\_80, Msay19\_82
- Track 5 : PokyPuppy\_75
- Track 6 : Damp\_76, GalacticEye\_76, Teal\_75, Berries\_76, Hello\_75, Charianelly\_76, Hail2Pitt\_74, Harambe\_75, Guillaume\_75, Luker\_77, Anamika\_75, Jams\_76, Lahirium\_75, Kaseim\_75, Newt\_77, Lidong\_76, MrWormie\_76, Woes\_75, Neevie\_75, Jormungandr\_75, Bianmat\_76, Shelley\_76, Minos\_77, Nimi13\_75, Sticker17\_76
- Track 7 : Benczkowski14\_75, Kvothe\_74, Teatealatte\_76, Niagara\_75, Hollow\_76, Teech\_73, Tredge\_75
- Track 8 : Philon9\_71
- Track 9 : Katyusha\_74
- Track 10 : ASerpRocky\_70
- Track 11 : Demosthenes\_70

### ***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 66 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ASerpRocky\_70, Adgers\_81, Amore2\_77, Anamika\_75, Austin\_76, Barbochs\_77, Beaver\_81, Benczkowski14\_75, BenoitCattle\_78, Berries\_76, Bianmat\_76, BigShaq\_78, BirksAndSocks\_82, Boneham\_81, Breezic\_78, Butterball\_80, CathyBurgh\_77, Charianelly\_76, Chelms\_78, CinnamonToast\_82, Dakiti\_79, Damp\_76, Demosthenes\_70, Diabla\_83, Eggsie\_76, Ekhein\_78, Exiguo\_77, FelixAlejandro\_82, Flakey\_77, GMA7\_66, GTE7\_65, GalacticEye\_76, Gorko\_77,

GourdThymes\_78, Guillaume\_75, Hail2Pitt\_74, Harambe\_75, HayZem\_77, Hello\_75, Hollow\_76, Hotorobo\_78, Jams\_76, Jellybones\_79, John316\_81, Jormungandr\_75, Kaseim\_75, Kvothe\_74, Lahirium\_75, Lidong\_76, Linetti\_78, Lizzo\_78, Luker\_77, Minos\_77, Monty\_77, MrWormie\_76, Msay19\_82, Neoevie\_75, Newt\_77, Niagara\_75, Nimi13\_75, Philon9\_71, PierreThree\_77, PokyPuppy\_75, Poland\_82, RemRem\_79, RoyalG\_78, Sam12\_77, Shelley\_76, Sombrero\_79, Squibbles\_77, SteveFrench\_77, Sticker17\_76, Teal\_75, Teatealatte\_76, Teech\_73, Tredge\_75, Woes\_75,

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

- Katyusha\_74,

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

- 

### Summary by start number:

Start 3:

- Found in 8 of 78 ( 10.3% ) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Katyusha\_74 (CS4),

Start 8:

- Found in 78 of 78 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 66 of 67
- Called 98.7% of time when present
- Phage (with cluster) where this start called: ASerpRocky\_70 (CS4), Adgers\_81 (CS2), Amore2\_77 (CS1), Anamika\_75 (CS3), Austin\_76 (CS1), Barbochs\_77 (CS2), Beaver\_81 (CS2), Benczkowski14\_75 (CS4), BenoitCattle\_78 (CS2), Berries\_76 (CS3), Bianmat\_76 (CS3), BigShaq\_78 (CS2), BirksAndSocks\_82 (CS2), Boneham\_81 (CS2), Breezic\_78 (CS2), Butterball\_80 (CS2), CathyBurgh\_77 (CS2), Charianelly\_76 (CS3), Chelms\_78 (CS2), CinnamonToast\_82 (CS2), Dakiti\_79 (CS2), Damp\_76 (CS3), Demosthenes\_70 (CS4), Diabla\_83 (CS2), Eggsie\_76 (CS2), Ekhein\_78 (CS2), Exiguo\_77 (CS2), FelixAlejandro\_82 (CS2), Flakey\_77 (CS2), GMA7\_66 (CS1), GTE7\_65 (CS1), GalacticEye\_76 (CS3), Gorko\_77 (CS2), GourdThymes\_78 (CS2), Guillaume\_75 (CS3), Hail2Pitt\_74 (CS3), Harambe\_75 (CS3), HayZem\_77 (CS1), Hello\_75 (CS3), Hollow\_76 (CS4), Hotorobo\_78 (CS2), Jams\_76 (CS3), Jellybones\_79 (CS2), John316\_81 (CS2), Jormungandr\_75 (CS3), Kaseim\_75 (CS3), Kvothe\_74 (CS4), Lahirium\_75 (CS3), Lidong\_76 (CS3), Linetti\_78 (CS2), Lizzo\_78 (CS2), Luker\_77 (CS3), Minos\_77 (CS3), Monty\_77 (CS2), MrWormie\_76 (CS3), Msay19\_82 (CS2), Neoevie\_75 (CS3), Newt\_77 (CS3), Niagara\_75 (CS4), Nimi13\_75 (CS3), Philon9\_71 (CS4), PierreThree\_77 (CS2), PokyPuppy\_75 (CS2), Poland\_82 (CS2), RemRem\_79 (CS2), RoyalG\_78 (CS2), Sam12\_77 (CS2), Shelley\_76 (CS3), Sombrero\_79 (CS2), Squibbles\_77 (CS2), SteveFrench\_77 (CS2), Sticker17\_76 (CS3), Teal\_75 (CS3), Teatealatte\_76 (CS4), Teech\_73 (CS4), Tredge\_75 (CS4), Woes\_75 (CS3),

### Summary by clusters:

There are 4 clusters represented in this pham: CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:

- Start number 8 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 8 was manually annotated 31 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 8 was manually annotated 24 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 3 was manually annotated 1 time for cluster CS4.
- Start number 8 was manually annotated 8 times for cluster CS4.

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

Gene: ASerpRocky\_70 Start: 60439, Stop: 59993, Start Num: 8

Candidate Starts for ASerpRocky\_70:

(1, 60514), (5, 60496), (Start: 8 @60439 has 66 MA's), (15, 60280), (21, 60169), (23, 60130),

Gene: Adgers\_81 Start: 61172, Stop: 60744, Start Num: 8

Candidate Starts for Adgers\_81:

(Start: 8 @61172 has 66 MA's), (16, 61016), (18, 60968), (19, 60962), (21, 60908), (23, 60869),

Gene: Amore2\_77 Start: 60184, Stop: 59762, Start Num: 8

Candidate Starts for Amore2\_77:

(Start: 8 @60184 has 66 MA's), (12, 60133), (13, 60088), (14, 60067), (17, 59995), (19, 59971), (20, 59932), (23, 59878),

Gene: Anamika\_75 Start: 61442, Stop: 61017, Start Num: 8

Candidate Starts for Anamika\_75:

(Start: 8 @61442 has 66 MA's), (10, 61418), (19, 61232), (20, 61193), (21, 61178), (23, 61139),

Gene: Austin\_76 Start: 60182, Stop: 59760, Start Num: 8

Candidate Starts for Austin\_76:

(Start: 8 @60182 has 66 MA's), (12, 60131), (13, 60086), (14, 60065), (17, 59993), (19, 59969), (20, 59930), (23, 59876),

Gene: Barbochs\_77 Start: 60548, Stop: 60120, Start Num: 8

Candidate Starts for Barbochs\_77:

(Start: 8 @60548 has 66 MA's), (16, 60392), (18, 60344), (19, 60338), (21, 60284), (23, 60245),

Gene: Beaver\_81 Start: 62492, Stop: 62064, Start Num: 8

Candidate Starts for Beaver\_81:

(Start: 8 @62492 has 66 MA's), (16, 62336), (18, 62288), (19, 62282), (21, 62228), (23, 62189),

Gene: Benczkowski14\_75 Start: 61637, Stop: 61191, Start Num: 8

Candidate Starts for Benczkowski14\_75:

(Start: 3 @61700 has 1 MA's), (6, 61691), (Start: 8 @61637 has 66 MA's), (15, 61478), (21, 61367), (23, 61328),

Gene: BenoitCattle\_78 Start: 61210, Stop: 60782, Start Num: 8

Candidate Starts for BenoitCattle\_78:

(Start: 8 @61210 has 66 MA's), (16, 61054), (19, 61000), (20, 60961), (21, 60946), (23, 60907),

Gene: Berries\_76 Start: 61414, Stop: 60989, Start Num: 8

Candidate Starts for Berries\_76:

(Start: 8 @61414 has 66 MA's), (10, 61390), (19, 61204), (20, 61165), (21, 61150), (23, 61111),

Gene: Bianmat\_76 Start: 61454, Stop: 61029, Start Num: 8

Candidate Starts for Bianmat\_76:

(Start: 8 @61454 has 66 MA's), (10, 61430), (19, 61244), (20, 61205), (21, 61190), (23, 61151),

Gene: BigShaq\_78 Start: 61382, Stop: 60954, Start Num: 8

Candidate Starts for BigShaq\_78:

(Start: 8 @61382 has 66 MA's), (16, 61226), (19, 61172), (20, 61133), (21, 61118), (23, 61079),

Gene: BirksAndSocks\_82 Start: 62615, Stop: 62187, Start Num: 8

Candidate Starts for BirksAndSocks\_82:

(Start: 8 @62615 has 66 MA's), (16, 62459), (18, 62411), (19, 62405), (21, 62351), (23, 62312),

Gene: Boneham\_81 Start: 62540, Stop: 62112, Start Num: 8

Candidate Starts for Boneham\_81:

(Start: 8 @62540 has 66 MA's), (16, 62384), (18, 62336), (19, 62330), (21, 62276), (23, 62237),

Gene: Breezic\_78 Start: 60759, Stop: 60331, Start Num: 8

Candidate Starts for Breezic\_78:

(Start: 8 @60759 has 66 MA's), (16, 60603), (18, 60555), (19, 60549), (21, 60495), (23, 60456),

Gene: Butterball\_80 Start: 62545, Stop: 62117, Start Num: 8

Candidate Starts for Butterball\_80:

(Start: 8 @62545 has 66 MA's), (16, 62389), (18, 62341), (19, 62335), (21, 62281), (23, 62242),

Gene: CathyBurgh\_77 Start: 61279, Stop: 60851, Start Num: 8

Candidate Starts for CathyBurgh\_77:

(Start: 8 @61279 has 66 MA's), (16, 61123), (18, 61075), (19, 61069), (21, 61015), (23, 60976),

Gene: Charianelly\_76 Start: 61164, Stop: 60739, Start Num: 8

Candidate Starts for Charianelly\_76:

(Start: 8 @61164 has 66 MA's), (10, 61140), (19, 60954), (20, 60915), (21, 60900), (23, 60861),

Gene: Chelms\_78 Start: 61312, Stop: 60884, Start Num: 8

Candidate Starts for Chelms\_78:

(Start: 8 @61312 has 66 MA's), (16, 61156), (19, 61102), (20, 61063), (21, 61048), (23, 61009),

Gene: CinnamonToast\_82 Start: 62620, Stop: 62192, Start Num: 8

Candidate Starts for CinnamonToast\_82:

(Start: 8 @62620 has 66 MA's), (16, 62464), (18, 62416), (19, 62410), (21, 62356), (23, 62317),

Gene: Dakiti\_79 Start: 62110, Stop: 61682, Start Num: 8

Candidate Starts for Dakiti\_79:

(Start: 8 @62110 has 66 MA's), (16, 61954), (19, 61900), (20, 61861), (21, 61846), (23, 61807),

Gene: Damp\_76 Start: 60328, Stop: 59903, Start Num: 8

Candidate Starts for Damp\_76:

(Start: 8 @60328 has 66 MA's), (10, 60304), (19, 60118), (20, 60079), (21, 60064), (23, 60025),

Gene: Demosthenes\_70 Start: 60413, Stop: 59967, Start Num: 8  
Candidate Starts for Demosthenes\_70:  
(1, 60488), (5, 60470), (Start: 8 @60413 has 66 MA's), (15, 60254), (21, 60143), (23, 60104),

Gene: Diabla\_83 Start: 62578, Stop: 62159, Start Num: 8  
Candidate Starts for Diabla\_83:  
(Start: 8 @62578 has 66 MA's), (16, 62422), (19, 62368), (20, 62329), (21, 62314), (23, 62275),

Gene: Eggsie\_76 Start: 60045, Stop: 59626, Start Num: 8  
Candidate Starts for Eggsie\_76:  
(Start: 8 @60045 has 66 MA's), (16, 59889), (19, 59835), (20, 59796), (21, 59781), (23, 59742),

Gene: Ekhein\_78 Start: 60449, Stop: 60021, Start Num: 8  
Candidate Starts for Ekhein\_78:  
(Start: 8 @60449 has 66 MA's), (16, 60293), (18, 60245), (19, 60239), (21, 60185), (23, 60146),

Gene: Exiguo\_77 Start: 60456, Stop: 60028, Start Num: 8  
Candidate Starts for Exiguo\_77:  
(Start: 8 @60456 has 66 MA's), (16, 60300), (18, 60252), (19, 60246), (21, 60192), (23, 60153),

Gene: FelixAlejandro\_82 Start: 62970, Stop: 62542, Start Num: 8  
Candidate Starts for FelixAlejandro\_82:  
(Start: 8 @62970 has 66 MA's), (16, 62814), (18, 62766), (19, 62760), (21, 62706), (23, 62667),

Gene: Flakey\_77 Start: 61265, Stop: 60837, Start Num: 8  
Candidate Starts for Flakey\_77:  
(Start: 8 @61265 has 66 MA's), (16, 61109), (18, 61061), (19, 61055), (21, 61001), (23, 60962),

Gene: GMA7\_66 Start: 54399, Stop: 53977, Start Num: 8  
Candidate Starts for GMA7\_66:  
(Start: 8 @54399 has 66 MA's), (12, 54348), (13, 54303), (14, 54282), (17, 54210), (19, 54186), (20, 54147), (23, 54093),

Gene: GTE7\_65 Start: 54429, Stop: 54007, Start Num: 8  
Candidate Starts for GTE7\_65:  
(Start: 8 @54429 has 66 MA's), (12, 54378), (13, 54333), (14, 54312), (17, 54240), (19, 54216), (20, 54177), (23, 54123),

Gene: GalacticEye\_76 Start: 61125, Stop: 60700, Start Num: 8  
Candidate Starts for GalacticEye\_76:  
(Start: 8 @61125 has 66 MA's), (10, 61101), (19, 60915), (20, 60876), (21, 60861), (23, 60822),

Gene: Gorko\_77 Start: 60366, Stop: 59938, Start Num: 8  
Candidate Starts for Gorko\_77:  
(Start: 8 @60366 has 66 MA's), (16, 60210), (18, 60162), (19, 60156), (21, 60102), (23, 60063),

Gene: GourdThymes\_78 Start: 61306, Stop: 60878, Start Num: 8  
Candidate Starts for GourdThymes\_78:  
(Start: 8 @61306 has 66 MA's), (16, 61150), (18, 61102), (19, 61096), (21, 61042), (23, 61003),

Gene: Guillaume\_75 Start: 61175, Stop: 60750, Start Num: 8  
Candidate Starts for Guillaume\_75:

(Start: 8 @61175 has 66 MA's), (10, 61151), (19, 60965), (20, 60926), (21, 60911), (23, 60872),

Gene: Hail2Pitt\_74 Start: 61651, Stop: 61226, Start Num: 8

Candidate Starts for Hail2Pitt\_74:

(Start: 8 @61651 has 66 MA's), (10, 61627), (19, 61441), (20, 61402), (21, 61387), (23, 61348),

Gene: Harambe\_75 Start: 61442, Stop: 61017, Start Num: 8

Candidate Starts for Harambe\_75:

(Start: 8 @61442 has 66 MA's), (10, 61418), (19, 61232), (20, 61193), (21, 61178), (23, 61139),

Gene: HayZem\_77 Start: 60182, Stop: 59760, Start Num: 8

Candidate Starts for HayZem\_77:

(Start: 8 @60182 has 66 MA's), (12, 60131), (13, 60086), (14, 60065), (17, 59993), (19, 59969), (20, 59930), (23, 59876),

Gene: Hello\_75 Start: 61404, Stop: 60979, Start Num: 8

Candidate Starts for Hello\_75:

(Start: 8 @61404 has 66 MA's), (10, 61380), (19, 61194), (20, 61155), (21, 61140), (23, 61101),

Gene: Hollow\_76 Start: 61806, Stop: 61360, Start Num: 8

Candidate Starts for Hollow\_76:

(Start: 3 @61869 has 1 MA's), (6, 61860), (Start: 8 @61806 has 66 MA's), (15, 61647), (21, 61536), (23, 61497),

Gene: Hotorobo\_78 Start: 61329, Stop: 60901, Start Num: 8

Candidate Starts for Hotorobo\_78:

(Start: 8 @61329 has 66 MA's), (16, 61173), (18, 61125), (19, 61119), (21, 61065), (23, 61026),

Gene: Jams\_76 Start: 60614, Stop: 60189, Start Num: 8

Candidate Starts for Jams\_76:

(Start: 8 @60614 has 66 MA's), (10, 60590), (19, 60404), (20, 60365), (21, 60350), (23, 60311),

Gene: Jellybones\_79 Start: 62254, Stop: 61826, Start Num: 8

Candidate Starts for Jellybones\_79:

(Start: 8 @62254 has 66 MA's), (16, 62098), (18, 62050), (19, 62044), (21, 61990), (23, 61951),

Gene: John316\_81 Start: 62417, Stop: 61989, Start Num: 8

Candidate Starts for John316\_81:

(Start: 8 @62417 has 66 MA's), (16, 62261), (18, 62213), (19, 62207), (21, 62153), (23, 62114),

Gene: Jormungandr\_75 Start: 61157, Stop: 60732, Start Num: 8

Candidate Starts for Jormungandr\_75:

(Start: 8 @61157 has 66 MA's), (10, 61133), (19, 60947), (20, 60908), (21, 60893), (23, 60854),

Gene: Kaseim\_75 Start: 60599, Stop: 60174, Start Num: 8

Candidate Starts for Kaseim\_75:

(Start: 8 @60599 has 66 MA's), (10, 60575), (19, 60389), (20, 60350), (21, 60335), (23, 60296),

Gene: Katyusha\_74 Start: 61700, Stop: 61191, Start Num: 3

Candidate Starts for Katyusha\_74:

(Start: 3 @61700 has 1 MA's), (6, 61691), (Start: 8 @61637 has 66 MA's), (15, 61478), (21, 61367), (23, 61328),

Gene: Kvothe\_74 Start: 61479, Stop: 61033, Start Num: 8  
Candidate Starts for Kvothe\_74:  
(Start: 3 @61542 has 1 MA's), (6, 61533), (Start: 8 @61479 has 66 MA's), (15, 61320), (21, 61209),  
(23, 61170),

Gene: Lahirium\_75 Start: 61679, Stop: 61254, Start Num: 8  
Candidate Starts for Lahirium\_75:  
(Start: 8 @61679 has 66 MA's), (10, 61655), (19, 61469), (20, 61430), (21, 61415), (23, 61376),

Gene: Lidong\_76 Start: 61414, Stop: 60989, Start Num: 8  
Candidate Starts for Lidong\_76:  
(Start: 8 @61414 has 66 MA's), (10, 61390), (19, 61204), (20, 61165), (21, 61150), (23, 61111),

Gene: Linetti\_78 Start: 62334, Stop: 61906, Start Num: 8  
Candidate Starts for Linetti\_78:  
(Start: 8 @62334 has 66 MA's), (16, 62178), (19, 62124), (20, 62085), (21, 62070), (23, 62031),

Gene: Lizzo\_78 Start: 61279, Stop: 60851, Start Num: 8  
Candidate Starts for Lizzo\_78:  
(Start: 8 @61279 has 66 MA's), (16, 61123), (18, 61075), (19, 61069), (21, 61015), (23, 60976),

Gene: Luker\_77 Start: 61632, Stop: 61207, Start Num: 8  
Candidate Starts for Luker\_77:  
(Start: 8 @61632 has 66 MA's), (10, 61608), (19, 61422), (20, 61383), (21, 61368), (23, 61329),

Gene: Minos\_77 Start: 61156, Stop: 60731, Start Num: 8  
Candidate Starts for Minos\_77:  
(Start: 8 @61156 has 66 MA's), (10, 61132), (19, 60946), (20, 60907), (21, 60892), (23, 60853),

Gene: Monty\_77 Start: 60492, Stop: 60064, Start Num: 8  
Candidate Starts for Monty\_77:  
(Start: 8 @60492 has 66 MA's), (16, 60336), (18, 60288), (19, 60282), (21, 60228), (23, 60189),

Gene: MrWormie\_76 Start: 60317, Stop: 59892, Start Num: 8  
Candidate Starts for MrWormie\_76:  
(Start: 8 @60317 has 66 MA's), (10, 60293), (19, 60107), (20, 60068), (21, 60053), (23, 60014),

Gene: Msay19\_82 Start: 62856, Stop: 62428, Start Num: 8  
Candidate Starts for Msay19\_82:  
(Start: 8 @62856 has 66 MA's), (16, 62700), (18, 62652), (19, 62646), (21, 62592), (23, 62553),

Gene: Neoevie\_75 Start: 61418, Stop: 60993, Start Num: 8  
Candidate Starts for Neoevie\_75:  
(Start: 8 @61418 has 66 MA's), (10, 61394), (19, 61208), (20, 61169), (21, 61154), (23, 61115),

Gene: Newt\_77 Start: 61646, Stop: 61221, Start Num: 8  
Candidate Starts for Newt\_77:  
(Start: 8 @61646 has 66 MA's), (10, 61622), (19, 61436), (20, 61397), (21, 61382), (23, 61343),

Gene: Niagara\_75 Start: 61570, Stop: 61124, Start Num: 8  
Candidate Starts for Niagara\_75:  
(Start: 3 @61633 has 1 MA's), (6, 61624), (Start: 8 @61570 has 66 MA's), (15, 61411), (21, 61300),  
(23, 61261),



Gene: Nimi13\_75 Start: 61165, Stop: 60740, Start Num: 8  
Candidate Starts for Nimi13\_75:  
(Start: 8 @61165 has 66 MA's), (10, 61141), (19, 60955), (20, 60916), (21, 60901), (23, 60862),

Gene: Philon9\_71 Start: 62080, Stop: 61646, Start Num: 8  
Candidate Starts for Philon9\_71:  
(6, 62140), (7, 62131), (Start: 8 @62080 has 66 MA's), (9, 62068), (11, 62047), (15, 61921), (16, 61918), (21, 61810), (22, 61774), (23, 61771),

Gene: PierreThree\_77 Start: 61741, Stop: 61313, Start Num: 8  
Candidate Starts for PierreThree\_77:  
(Start: 8 @61741 has 66 MA's), (16, 61585), (19, 61531), (20, 61492), (21, 61477), (23, 61438),

Gene: PokyPuppy\_75 Start: 61009, Stop: 60587, Start Num: 8  
Candidate Starts for PokyPuppy\_75:  
(2, 61081), (4, 61075), (Start: 8 @61009 has 66 MA's), (19, 60799), (21, 60745), (23, 60706),

Gene: Poland\_82 Start: 62835, Stop: 62407, Start Num: 8  
Candidate Starts for Poland\_82:  
(Start: 8 @62835 has 66 MA's), (16, 62679), (18, 62631), (19, 62625), (21, 62571), (23, 62532),

Gene: RemRem\_79 Start: 60432, Stop: 60004, Start Num: 8  
Candidate Starts for RemRem\_79:  
(Start: 8 @60432 has 66 MA's), (16, 60276), (18, 60228), (19, 60222), (21, 60168), (23, 60129),

Gene: RoyalG\_78 Start: 61019, Stop: 60600, Start Num: 8  
Candidate Starts for RoyalG\_78:  
(Start: 8 @61019 has 66 MA's), (16, 60863), (19, 60809), (20, 60770), (21, 60755), (23, 60716),

Gene: Sam12\_77 Start: 60456, Stop: 60028, Start Num: 8  
Candidate Starts for Sam12\_77:  
(Start: 8 @60456 has 66 MA's), (16, 60300), (18, 60252), (19, 60246), (21, 60192), (23, 60153),

Gene: Shelley\_76 Start: 60641, Stop: 60216, Start Num: 8  
Candidate Starts for Shelley\_76:  
(Start: 8 @60641 has 66 MA's), (10, 60617), (19, 60431), (20, 60392), (21, 60377), (23, 60338),

Gene: Sombrero\_79 Start: 61046, Stop: 60618, Start Num: 8  
Candidate Starts for Sombrero\_79:  
(Start: 8 @61046 has 66 MA's), (16, 60890), (18, 60842), (19, 60836), (21, 60782), (23, 60743),

Gene: Squibbles\_77 Start: 61309, Stop: 60881, Start Num: 8  
Candidate Starts for Squibbles\_77:  
(Start: 8 @61309 has 66 MA's), (16, 61153), (18, 61105), (19, 61099), (21, 61045), (23, 61006),

Gene: SteveFrench\_77 Start: 61259, Stop: 60840, Start Num: 8  
Candidate Starts for SteveFrench\_77:  
(Start: 8 @61259 has 66 MA's), (16, 61103), (19, 61049), (20, 61010), (21, 60995), (23, 60956),

Gene: Sticker17\_76 Start: 61129, Stop: 60704, Start Num: 8  
Candidate Starts for Sticker17\_76:  
(Start: 8 @61129 has 66 MA's), (10, 61105), (19, 60919), (20, 60880), (21, 60865), (23, 60826),

Gene: Teal\_75 Start: 61623, Stop: 61198, Start Num: 8

Candidate Starts for Teal\_75:

(Start: 8 @61623 has 66 MA's), (10, 61599), (19, 61413), (20, 61374), (21, 61359), (23, 61320),

Gene: Teatealatte\_76 Start: 61467, Stop: 61021, Start Num: 8

Candidate Starts for Teatealatte\_76:

(Start: 3 @61530 has 1 MA's), (6, 61521), (Start: 8 @61467 has 66 MA's), (15, 61308), (21, 61197), (23, 61158),

Gene: Teech\_73 Start: 61286, Stop: 60837, Start Num: 8

Candidate Starts for Teech\_73:

(Start: 3 @61349 has 1 MA's), (6, 61340), (Start: 8 @61286 has 66 MA's), (15, 61127), (21, 61016), (23, 60977),

Gene: Tredge\_75 Start: 61467, Stop: 61021, Start Num: 8

Candidate Starts for Tredge\_75:

(Start: 3 @61530 has 1 MA's), (6, 61521), (Start: 8 @61467 has 66 MA's), (15, 61308), (21, 61197), (23, 61158),

Gene: Woes\_75 Start: 61674, Stop: 61249, Start Num: 8

Candidate Starts for Woes\_75:

(Start: 8 @61674 has 66 MA's), (10, 61650), (19, 61464), (20, 61425), (21, 61410), (23, 61371),