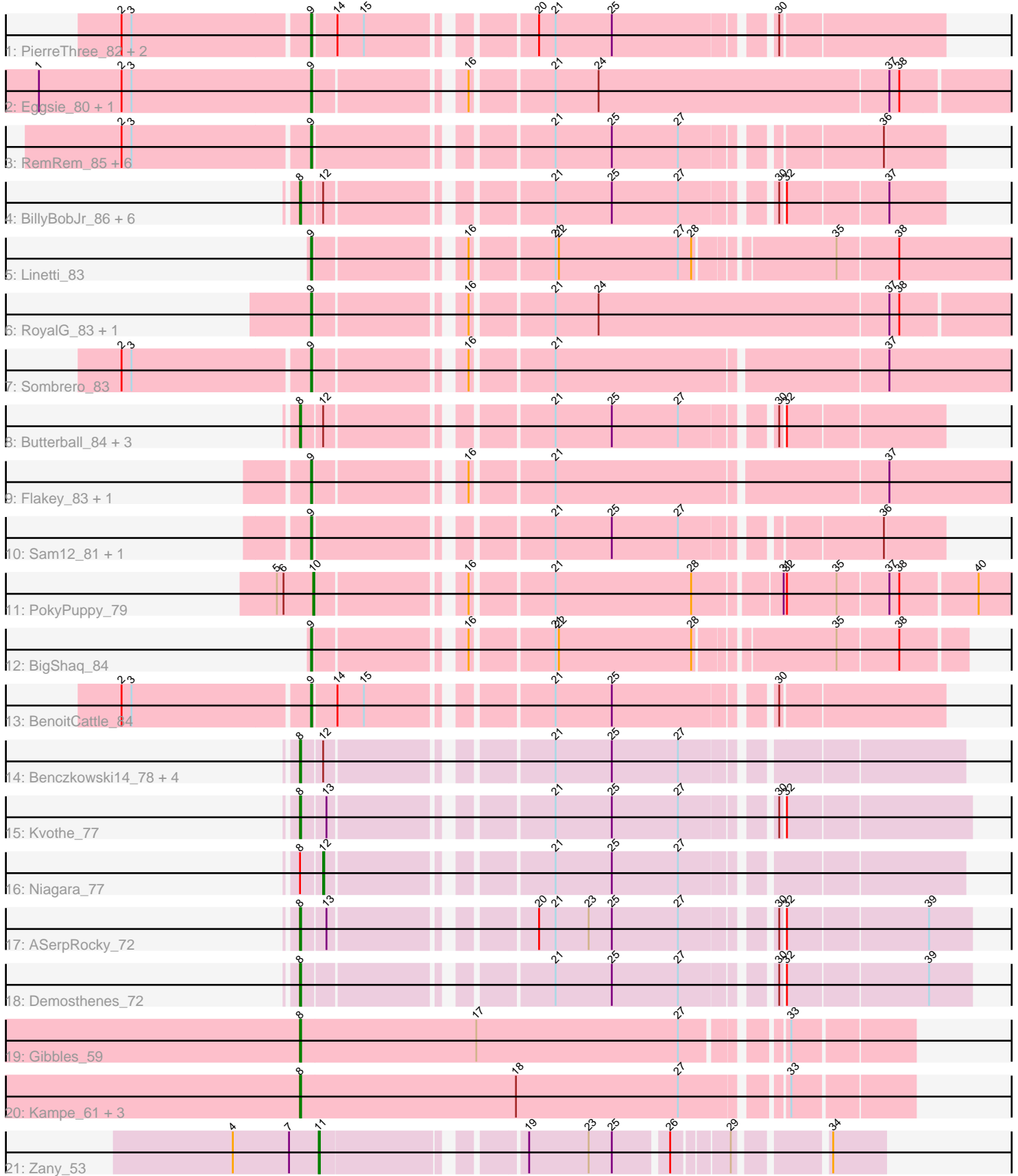


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 308774 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308774 has 49 members, 4 are drafts.

Phages represented in each track:

- Track 1 : PierreThree\_82, Chelms\_83, Dakiti\_84
- Track 2 : Eggsie\_80, Diabla\_88
- Track 3 : RemRem\_85, Ekhein\_84, Squibbles\_83, Kelzog\_85, Monty\_83, Hotorobo\_84, Breezic\_84
- Track 4 : BillyBobJr\_86, Jellybones\_83, CinnamonToast\_86, Worcestershire\_81, Adgers\_85, Poland\_86, Msay19\_86
- Track 5 : Linetti\_83
- Track 6 : RoyalG\_83, SteveFrench\_82
- Track 7 : Sombrero\_83
- Track 8 : Butterball\_84, Teech\_78, BirksAndSocks\_86, Boneham\_85
- Track 9 : Flakey\_83, FelixAlejandro\_86
- Track 10 : Sam12\_81, Exiguo\_81
- Track 11 : PokyPuppy\_79
- Track 12 : BigShaq\_84
- Track 13 : BenoitCattle\_84
- Track 14 : Benczkowski14\_78, Tredge\_77, Teatealatte\_78, Hollow\_78, Katyusha\_76
- Track 15 : Kvothe\_77
- Track 16 : Niagara\_77
- Track 17 : ASerpRocky\_72
- Track 18 : Demosthenes\_72
- Track 19 : Gibbles\_59
- Track 20 : Kampe\_61, PatrickStar\_61, Orchid\_60, RobinSparkles\_64
- Track 21 : Zany\_53

### ***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 21 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ASerpRocky\_72, Adgers\_85, Benczkowski14\_78, BillyBobJr\_86, BirksAndSocks\_86, Boneham\_85, Butterball\_84, CinnamonToast\_86, Demosthenes\_72, Gibbles\_59, Hollow\_78, Jellybones\_83, Kampe\_61, Katyusha\_76,

Kvothe\_77, Msay19\_86, Orchid\_60, PatrickStar\_61, Poland\_86, RobinSparkles\_64, Teatealatte\_78, Teech\_78, Tredge\_77, Worcestershire\_81,

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

- Niagara\_77,

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

- BenoitCattle\_84, BigShaq\_84, Breezic\_84, Chelms\_83, Dakiti\_84, Diabla\_88, Eggsie\_80, Ekhein\_84, Exiguo\_81, FelixAlejandro\_86, Flakey\_83, Hotorobo\_84, Kelzog\_85, Linetti\_83, Monty\_83, PierreThree\_82, PokyPuppy\_79, RemRem\_85, RoyalG\_83, Sam12\_81, Sombrero\_83, Squibbles\_83, SteveFrench\_82, Zany\_53,

### Summary by start number:

Start 8:

- Found in 25 of 49 ( 51.0% ) of genes in pham
- Manual Annotations of this start: 21 of 45
- Called 96.0% of time when present
- Phage (with cluster) where this start called: ASerpRocky\_72 (CS4), Adgers\_85 (CS2), Benczkowski14\_78 (CS4), BillyBobJr\_86 (CS2), BirksAndSocks\_86 (CS2), Boneham\_85 (CS2), Butterball\_84 (CS2), CinnamonToast\_86 (CS2), Demosthenes\_72 (CS4), Gibbles\_59 (CX), Hollow\_78 (CS4), Jellybones\_83 (CS2), Kampe\_61 (CX), Katyusha\_76 (CS4), Kvothe\_77 (CS4), Msay19\_86 (CS2), Orchid\_60 (CX), PatrickStar\_61 (CX), Poland\_86 (CS2), RobinSparkles\_64 (CX), Teatealatte\_78 (CS4), Teech\_78 (CS4), Tredge\_77 (CS4), Worcestershire\_81 (CS2),

Start 9:

- Found in 22 of 49 ( 44.9% ) of genes in pham
- Manual Annotations of this start: 21 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BenoitCattle\_84 (CS2), BigShaq\_84 (CS2), Breezic\_84 (CS2), Chelms\_83 (CS2), Dakiti\_84 (CS2), Diabla\_88 (CS2), Eggsie\_80 (CS2), Ekhein\_84 (CS2), Exiguo\_81 (CS2), FelixAlejandro\_86 (CS2), Flakey\_83 (CS2), Hotorobo\_84 (CS2), Kelzog\_85 (CS2), Linetti\_83 (CS2), Monty\_83 (CS2), PierreThree\_82 (CS2), RemRem\_85 (CS2), RoyalG\_83 (CS2), Sam12\_81 (CS2), Sombrero\_83 (CS2), Squibbles\_83 (CS2), SteveFrench\_82 (CS2),

Start 10:

- Found in 1 of 49 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PokyPuppy\_79 (CS2),

Start 11:

- Found in 1 of 49 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 1 of 45
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zany\_53 (DV),

Start 12:

- Found in 17 of 49 ( 34.7% ) of genes in pham
- Manual Annotations of this start: 1 of 45
- Called 5.9% of time when present

- Phage (with cluster) where this start called: Niagara\_77 (CS4),

### **Summary by clusters:**

There are 4 clusters represented in this pham: DV, CS4, CX, CS2,

Info for manual annotations of cluster CS2:

- Start number 8 was manually annotated 7 times for cluster CS2.
- Start number 9 was manually annotated 21 times for cluster CS2.
- Start number 10 was manually annotated 1 time for cluster CS2.

Info for manual annotations of cluster CS4:

- Start number 8 was manually annotated 9 times for cluster CS4.
- Start number 12 was manually annotated 1 time for cluster CS4.

Info for manual annotations of cluster CX:

- Start number 8 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster DV:

- Start number 11 was manually annotated 1 time for cluster DV.

### **Gene Information:**

Gene: ASerpRocky\_72 Start: 61671, Stop: 61135, Start Num: 8

Candidate Starts for ASerpRocky\_72:

(Start: 8 @61671 has 21 MA's), (13, 61650), (20, 61494), (21, 61479), (23, 61449), (25, 61428), (27, 61368), (30, 61299), (32, 61296), (39, 61173),

Gene: Adgers\_85 Start: 62791, Stop: 62279, Start Num: 8

Candidate Starts for Adgers\_85:

(Start: 8 @62791 has 21 MA's), (Start: 12 @62773 has 1 MA's), (21, 62599), (25, 62548), (27, 62488), (30, 62419), (32, 62416), (37, 62329),

Gene: Benczkowski14\_78 Start: 62919, Stop: 62386, Start Num: 8

Candidate Starts for Benczkowski14\_78:

(Start: 8 @62919 has 21 MA's), (Start: 12 @62901 has 1 MA's), (21, 62727), (25, 62676), (27, 62616),

Gene: BenoitCattle\_84 Start: 63500, Stop: 62991, Start Num: 9

Candidate Starts for BenoitCattle\_84:

(2, 63665), (3, 63656), (Start: 9 @63500 has 21 MA's), (14, 63479), (15, 63455), (21, 63314), (25, 63263), (30, 63134),

Gene: BigShaq\_84 Start: 63450, Stop: 62920, Start Num: 9

Candidate Starts for BigShaq\_84:

(Start: 9 @63450 has 21 MA's), (16, 63333), (21, 63267), (22, 63264), (28, 63144), (35, 63030), (38, 62976),

Gene: BillyBobJr\_86 Start: 64239, Stop: 63727, Start Num: 8

Candidate Starts for BillyBobJr\_86:

(Start: 8 @64239 has 21 MA's), (Start: 12 @64221 has 1 MA's), (21, 64047), (25, 63996), (27, 63936), (30, 63867), (32, 63864), (37, 63777),

Gene: BirksAndSocks\_86 Start: 64234, Stop: 63722, Start Num: 8  
Candidate Starts for BirksAndSocks\_86:  
(Start: 8 @64234 has 21 MA's), (Start: 12 @64216 has 1 MA's), (21, 64042), (25, 63991), (27, 63931),  
(30, 63862), (32, 63859),

Gene: Boneham\_85 Start: 64159, Stop: 63647, Start Num: 8  
Candidate Starts for Boneham\_85:  
(Start: 8 @64159 has 21 MA's), (Start: 12 @64141 has 1 MA's), (21, 63967), (25, 63916), (27, 63856),  
(30, 63787), (32, 63784),

Gene: Breezic\_84 Start: 63003, Stop: 62497, Start Num: 9  
Candidate Starts for Breezic\_84:  
(2, 63168), (3, 63159), (Start: 9 @63003 has 21 MA's), (21, 62817), (25, 62766), (27, 62706), (36,  
62550),

Gene: Butterball\_84 Start: 64164, Stop: 63652, Start Num: 8  
Candidate Starts for Butterball\_84:  
(Start: 8 @64164 has 21 MA's), (Start: 12 @64146 has 1 MA's), (21, 63972), (25, 63921), (27, 63861),  
(30, 63792), (32, 63789),

Gene: Chelms\_83 Start: 63347, Stop: 62838, Start Num: 9  
Candidate Starts for Chelms\_83:  
(2, 63512), (3, 63503), (Start: 9 @63347 has 21 MA's), (14, 63326), (15, 63302), (20, 63176), (21,  
63161), (25, 63110), (30, 62981),

Gene: CinnamonToast\_86 Start: 64239, Stop: 63727, Start Num: 8  
Candidate Starts for CinnamonToast\_86:  
(Start: 8 @64239 has 21 MA's), (Start: 12 @64221 has 1 MA's), (21, 64047), (25, 63996), (27, 63936),  
(30, 63867), (32, 63864), (37, 63777),

Gene: Dakiti\_84 Start: 64144, Stop: 63635, Start Num: 9  
Candidate Starts for Dakiti\_84:  
(2, 64309), (3, 64300), (Start: 9 @64144 has 21 MA's), (14, 64123), (15, 64099), (20, 63973), (21,  
63958), (25, 63907), (30, 63778),

Gene: Demosthenes\_72 Start: 61693, Stop: 61157, Start Num: 8  
Candidate Starts for Demosthenes\_72:  
(Start: 8 @61693 has 21 MA's), (21, 61501), (25, 61450), (27, 61390), (30, 61321), (32, 61318), (39,  
61195),

Gene: Diabla\_88 Start: 64387, Stop: 63779, Start Num: 9  
Candidate Starts for Diabla\_88:  
(1, 64633), (2, 64558), (3, 64549), (Start: 9 @64387 has 21 MA's), (16, 64270), (21, 64204), (24,  
64165), (37, 63904), (38, 63895),

Gene: Eggsie\_80 Start: 61830, Stop: 61222, Start Num: 9  
Candidate Starts for Eggsie\_80:  
(1, 62076), (2, 62001), (3, 61992), (Start: 9 @61830 has 21 MA's), (16, 61713), (21, 61647), (24,  
61608), (37, 61347), (38, 61338),

Gene: Ekhein\_84 Start: 62693, Stop: 62187, Start Num: 9  
Candidate Starts for Ekhein\_84:

(2, 62858), (3, 62849), (Start: 9 @62693 has 21 MA's), (21, 62507), (25, 62456), (27, 62396), (36, 62240),

Gene: Exiguo\_81 Start: 62121, Stop: 61615, Start Num: 9

Candidate Starts for Exiguo\_81:

(Start: 9 @62121 has 21 MA's), (21, 61935), (25, 61884), (27, 61824), (36, 61668),

Gene: FelixAlejandro\_86 Start: 64670, Stop: 64077, Start Num: 9

Candidate Starts for FelixAlejandro\_86:

(Start: 9 @64670 has 21 MA's), (16, 64553), (21, 64487), (37, 64199),

Gene: Flakey\_83 Start: 63596, Stop: 63003, Start Num: 9

Candidate Starts for Flakey\_83:

(Start: 9 @63596 has 21 MA's), (16, 63479), (21, 63413), (37, 63125),

Gene: Gibbles\_59 Start: 52058, Stop: 51537, Start Num: 8

Candidate Starts for Gibbles\_59:

(Start: 8 @52058 has 21 MA's), (17, 51899), (27, 51716), (33, 51641),

Gene: Hollow\_78 Start: 63088, Stop: 62555, Start Num: 8

Candidate Starts for Hollow\_78:

(Start: 8 @63088 has 21 MA's), (Start: 12 @63070 has 1 MA's), (21, 62896), (25, 62845), (27, 62785),

Gene: Hotorobo\_84 Start: 63573, Stop: 63067, Start Num: 9

Candidate Starts for Hotorobo\_84:

(2, 63738), (3, 63729), (Start: 9 @63573 has 21 MA's), (21, 63387), (25, 63336), (27, 63276), (36, 63120),

Gene: Jellybones\_83 Start: 63874, Stop: 63362, Start Num: 8

Candidate Starts for Jellybones\_83:

(Start: 8 @63874 has 21 MA's), (Start: 12 @63856 has 1 MA's), (21, 63682), (25, 63631), (27, 63571), (30, 63502), (32, 63499), (37, 63412),

Gene: Kampe\_61 Start: 52041, Stop: 51514, Start Num: 8

Candidate Starts for Kampe\_61:

(Start: 8 @52041 has 21 MA's), (18, 51846), (27, 51699), (33, 51618),

Gene: Katyusha\_76 Start: 62919, Stop: 62386, Start Num: 8

Candidate Starts for Katyusha\_76:

(Start: 8 @62919 has 21 MA's), (Start: 12 @62901 has 1 MA's), (21, 62727), (25, 62676), (27, 62616),

Gene: Kelzog\_85 Start: 63450, Stop: 62944, Start Num: 9

Candidate Starts for Kelzog\_85:

(2, 63615), (3, 63606), (Start: 9 @63450 has 21 MA's), (21, 63264), (25, 63213), (27, 63153), (36, 62997),

Gene: Kvothe\_77 Start: 62928, Stop: 62392, Start Num: 8

Candidate Starts for Kvothe\_77:

(Start: 8 @62928 has 21 MA's), (13, 62907), (21, 62736), (25, 62685), (27, 62625), (30, 62556), (32, 62553),

Gene: Linetti\_83 Start: 64450, Stop: 63863, Start Num: 9

Candidate Starts for Linetti\_83:

(Start: 9 @64450 has 21 MA's), (16, 64333), (21, 64267), (22, 64264), (27, 64156), (28, 64144), (35, 64030), (38, 63976),

Gene: Monty\_83 Start: 62736, Stop: 62230, Start Num: 9

Candidate Starts for Monty\_83:

(2, 62901), (3, 62892), (Start: 9 @62736 has 21 MA's), (21, 62550), (25, 62499), (27, 62439), (36, 62283),

Gene: Msay19\_86 Start: 64475, Stop: 63963, Start Num: 8

Candidate Starts for Msay19\_86:

(Start: 8 @64475 has 21 MA's), (Start: 12 @64457 has 1 MA's), (21, 64283), (25, 64232), (27, 64172), (30, 64103), (32, 64100), (37, 64013),

Gene: Niagara\_77 Start: 62834, Stop: 62319, Start Num: 12

Candidate Starts for Niagara\_77:

(Start: 8 @62852 has 21 MA's), (Start: 12 @62834 has 1 MA's), (21, 62660), (25, 62609), (27, 62549),

Gene: Orchid\_60 Start: 52042, Stop: 51515, Start Num: 8

Candidate Starts for Orchid\_60:

(Start: 8 @52042 has 21 MA's), (18, 51847), (27, 51700), (33, 51619),

Gene: PatrickStar\_61 Start: 52041, Stop: 51514, Start Num: 8

Candidate Starts for PatrickStar\_61:

(Start: 8 @52041 has 21 MA's), (18, 51846), (27, 51699), (33, 51618),

Gene: PierreThree\_82 Start: 63775, Stop: 63266, Start Num: 9

Candidate Starts for PierreThree\_82:

(2, 63940), (3, 63931), (Start: 9 @63775 has 21 MA's), (14, 63754), (15, 63730), (20, 63604), (21, 63589), (25, 63538), (30, 63409),

Gene: PokyPuppy\_79 Start: 62787, Stop: 62191, Start Num: 10

Candidate Starts for PokyPuppy\_79:

(5, 62820), (6, 62814), (Start: 10 @62787 has 1 MA's), (16, 62670), (21, 62604), (28, 62481), (31, 62409), (32, 62406), (35, 62361), (37, 62316), (38, 62307), (40, 62241),

Gene: Poland\_86 Start: 64454, Stop: 63942, Start Num: 8

Candidate Starts for Poland\_86:

(Start: 8 @64454 has 21 MA's), (Start: 12 @64436 has 1 MA's), (21, 64262), (25, 64211), (27, 64151), (30, 64082), (32, 64079), (37, 63992),

Gene: RemRem\_85 Start: 62676, Stop: 62170, Start Num: 9

Candidate Starts for RemRem\_85:

(2, 62841), (3, 62832), (Start: 9 @62676 has 21 MA's), (21, 62490), (25, 62439), (27, 62379), (36, 62223),

Gene: RobinSparkles\_64 Start: 52594, Stop: 52067, Start Num: 8

Candidate Starts for RobinSparkles\_64:

(Start: 8 @52594 has 21 MA's), (18, 52399), (27, 52252), (33, 52171),

Gene: RoyalG\_83 Start: 63138, Stop: 62530, Start Num: 9

Candidate Starts for RoyalG\_83:

(Start: 9 @63138 has 21 MA's), (16, 63021), (21, 62955), (24, 62916), (37, 62655), (38, 62646),

Gene: Sam12\_81 Start: 62121, Stop: 61615, Start Num: 9

Candidate Starts for Sam12\_81:

(Start: 9 @62121 has 21 MA's), (21, 61935), (25, 61884), (27, 61824), (36, 61668),

Gene: Sombrero\_83 Start: 62746, Stop: 62153, Start Num: 9

Candidate Starts for Sombrero\_83:

(2, 62911), (3, 62902), (Start: 9 @62746 has 21 MA's), (16, 62629), (21, 62563), (37, 62275),

Gene: Squibbles\_83 Start: 63553, Stop: 63047, Start Num: 9

Candidate Starts for Squibbles\_83:

(2, 63718), (3, 63709), (Start: 9 @63553 has 21 MA's), (21, 63367), (25, 63316), (27, 63256), (36, 63100),

Gene: SteveFrench\_82 Start: 63378, Stop: 62770, Start Num: 9

Candidate Starts for SteveFrench\_82:

(Start: 9 @63378 has 21 MA's), (16, 63261), (21, 63195), (24, 63156), (37, 62895), (38, 62886),

Gene: Teatealatte\_78 Start: 62749, Stop: 62216, Start Num: 8

Candidate Starts for Teatealatte\_78:

(Start: 8 @62749 has 21 MA's), (Start: 12 @62731 has 1 MA's), (21, 62557), (25, 62506), (27, 62446),

Gene: Teech\_78 Start: 62565, Stop: 62035, Start Num: 8

Candidate Starts for Teech\_78:

(Start: 8 @62565 has 21 MA's), (Start: 12 @62547 has 1 MA's), (21, 62373), (25, 62322), (27, 62262), (30, 62193), (32, 62190),

Gene: Tredge\_77 Start: 62749, Stop: 62216, Start Num: 8

Candidate Starts for Tredge\_77:

(Start: 8 @62749 has 21 MA's), (Start: 12 @62731 has 1 MA's), (21, 62557), (25, 62506), (27, 62446),

Gene: Worcestershire\_81 Start: 62111, Stop: 61599, Start Num: 8

Candidate Starts for Worcestershire\_81:

(Start: 8 @62111 has 21 MA's), (Start: 12 @62093 has 1 MA's), (21, 61919), (25, 61868), (27, 61808), (30, 61739), (32, 61736), (37, 61649),

Gene: Zany\_53 Start: 38905, Stop: 39345, Start Num: 11

Candidate Starts for Zany\_53:

(4, 38827), (7, 38878), (Start: 11 @38905 has 1 MA's), (19, 39064), (23, 39118), (25, 39139), (26, 39184), (29, 39229), (34, 39298),