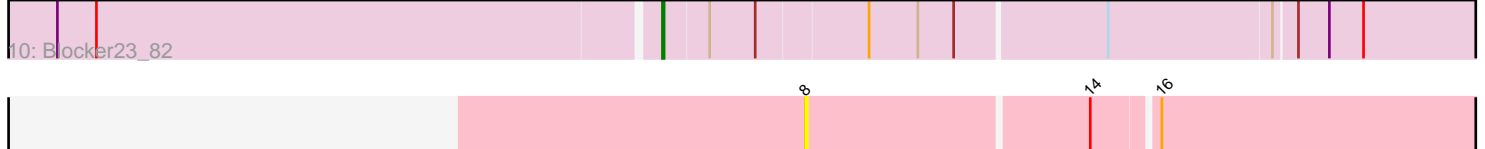
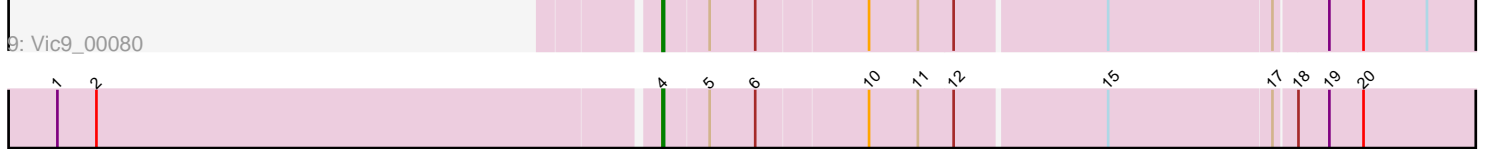
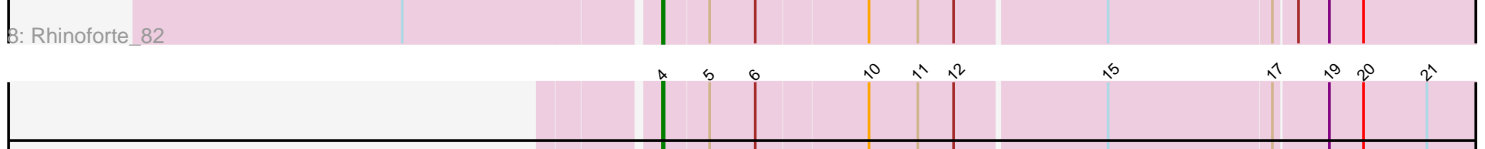
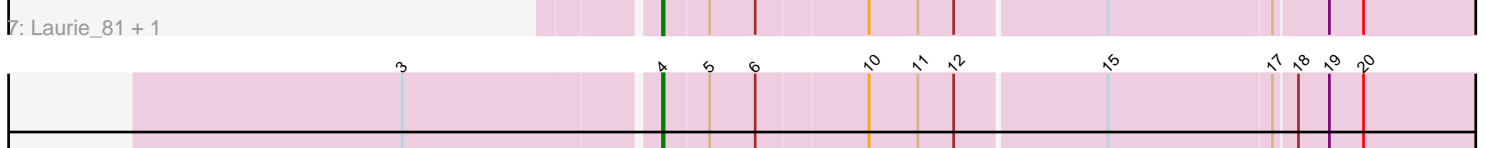
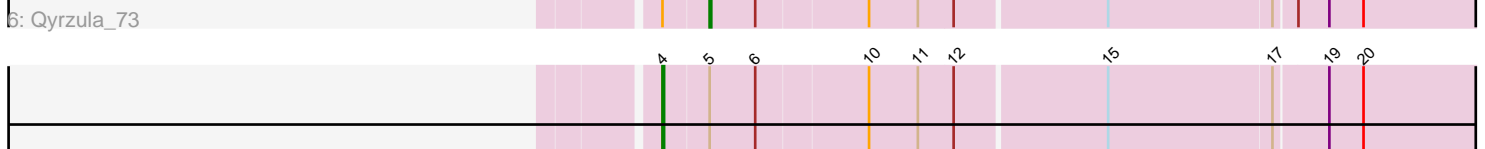
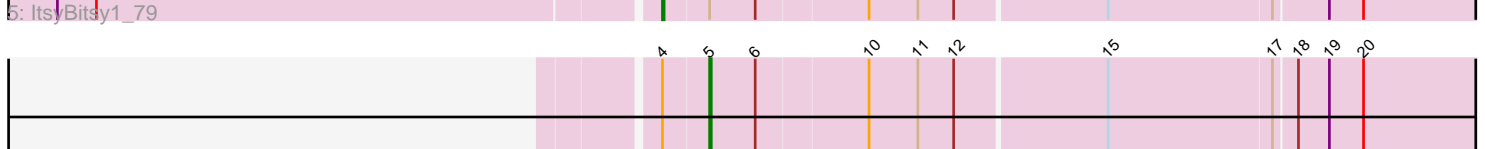
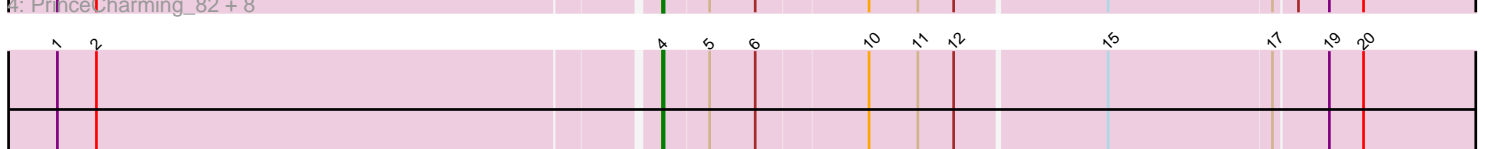
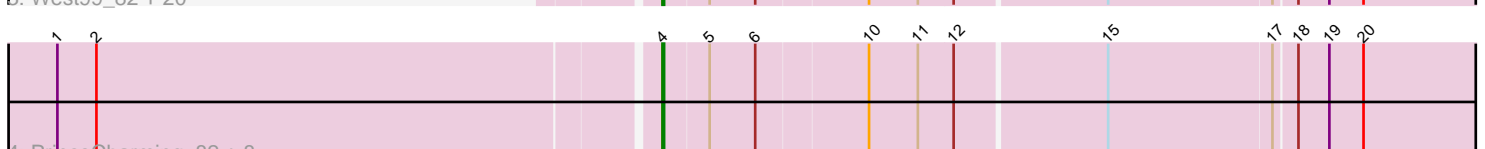
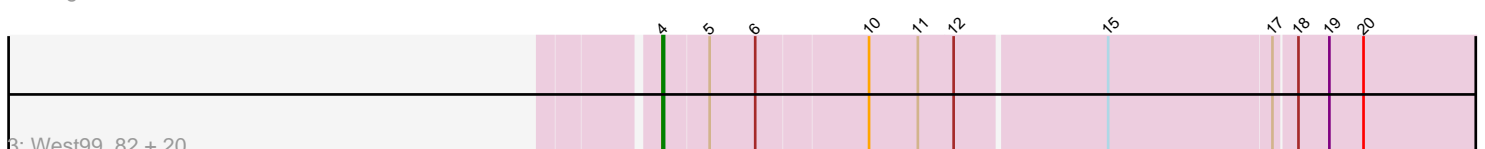
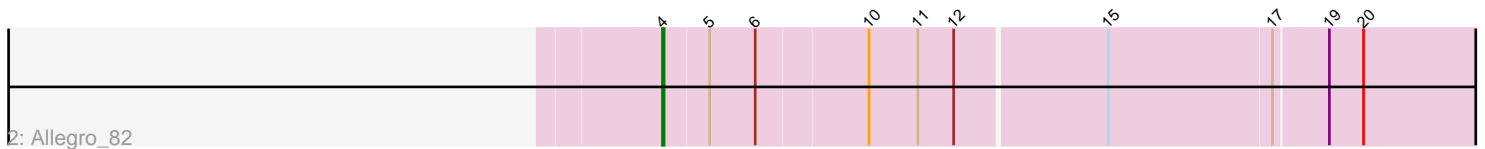
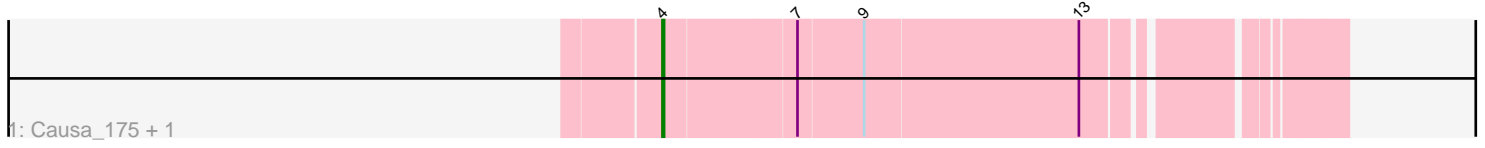


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 311772 Report

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

Pham number 311772 has 41 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Causa\_175, StAugustine\_169
- Track 2 : Allegro\_82
- Track 3 : West99\_82, Opia\_83, Holeinone\_82, Hedgerow\_82, TA17A\_85, FrenchFry\_83, Kaleb\_82, Kolhan\_83, Boyle\_82, Eaglehorse\_82, LizLemon\_82, Calamitous\_83, Ares\_82, Faze9\_81, Bananafish\_83, Glass\_84, Lars\_83, Phantasmagoria\_81, Rosebush\_80, LilSmirk\_82, Kheth\_82
- Track 4 : PrinceCharming\_82, Brownie5\_82, MasterPo\_83, Arbiter\_79, Coffee\_81, Sabella\_82, Tinciduntolum\_83, Tres\_82, Lephleur\_82
- Track 5 : ItsyBitsy1\_79
- Track 6 : Qyrzula\_73
- Track 7 : Laurie\_81, Godines\_82
- Track 8 : Rhinoforte\_82
- Track 9 : Vic9\_00080
- Track 10 : Blocker23\_82
- Track 11 : E3\_gp95

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

The start number called the most often in the published annotations is 4, it was called in 38 of the 39 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Allegro\_82, Arbiter\_79, Ares\_82, Bananafish\_83, Blocker23\_82, Boyle\_82, Brownie5\_82, Calamitous\_83, Causa\_175, Coffee\_81, Eaglehorse\_82, Faze9\_81, FrenchFry\_83, Glass\_84, Godines\_82, Hedgerow\_82, Holeinone\_82, ItsyBitsy1\_79, Kaleb\_82, Kheth\_82, Kolhan\_83, Lars\_83, Laurie\_81, Lephleur\_82, LilSmirk\_82, LizLemon\_82, MasterPo\_83, Opia\_83, Phantasmagoria\_81, PrinceCharming\_82, Rhinoforte\_82, Rosebush\_80, Sabella\_82, StAugustine\_169, TA17A\_85, Tinciduntolum\_83, Tres\_82, Vic9\_00080, West99\_82,

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

- Qyrzula\_73,

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

- E3\_gp95,

### Summary by start number:

#### Start 4:

- Found in 40 of 41 ( 97.6% ) of genes in pham
- Manual Annotations of this start: 38 of 39
- Called 97.5% of time when present
- Phage (with cluster) where this start called: Allegro\_82 (B2), Arbiter\_79 (B2), Ares\_82 (B2), Bananafish\_83 (B2), Blocker23\_82 (B2), Boyle\_82 (B2), Brownie5\_82 (B2), Calamitous\_83 (B2), Causa\_175 (AI), Coffee\_81 (B2), Eaglehorse\_82 (B2), Faze9\_81 (B2), FrenchFry\_83 (B2), Glass\_84 (B2), Godines\_82 (B2), Hedgerow\_82 (B2), Holeinone\_82 (B2), ItsyBitsy1\_79 (B2), Kaleb\_82 (B2), Kheth\_82 (B2), Kolhan\_83 (B2), Lars\_83 (B2), Laurie\_81 (B2), Lephleur\_82 (B2), LilSmirk\_82 (B2), LizLemon\_82 (B2), MasterPo\_83 (B2), Opia\_83 (B2), Phantasmagoria\_81 (B2), PrinceCharming\_82 (B2), Rhinoforte\_82 (B2), Rosebush\_80 (B2), Sabella\_82 (B2), StAugustine\_169 (AI), TA17A\_85 (B2), Tinciduntolum\_83 (B2), Tres\_82 (B2), Vic9\_00080 (B2), West99\_82 (B2),

#### Start 5:

- Found in 38 of 41 ( 92.7% ) of genes in pham
- Manual Annotations of this start: 1 of 39
- Called 2.6% of time when present
- Phage (with cluster) where this start called: Qyrzula\_73 (B2),

#### Start 8:

- Found in 1 of 41 ( 2.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: E3\_gp95 (singleton),

### Summary by clusters:

There are 3 clusters represented in this pham: AI, singleton, B2,

Info for manual annotations of cluster AI:

- Start number 4 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster B2:

- Start number 4 was manually annotated 36 times for cluster B2.
- Start number 5 was manually annotated 1 time for cluster B2.

### Gene Information:

Gene: Allegro\_82 Start: 62777, Stop: 62283, Start Num: 4

Candidate Starts for Allegro\_82:

(Start: 4 @62777 has 38 MA's), (Start: 5 @62750 has 1 MA's), (6, 62723), (10, 62657), (11, 62627), (12, 62606), (15, 62516), (17, 62417), (19, 62387), (20, 62366),

Gene: Arbiter\_79 Start: 62824, Stop: 62330, Start Num: 4

Candidate Starts for Arbiter\_79:

(1, 63184), (2, 63160), (Start: 4 @62824 has 38 MA's), (Start: 5 @62797 has 1 MA's), (6, 62770), (10, 62704), (11, 62674), (12, 62653), (15, 62563), (17, 62464), (18, 62452), (19, 62434), (20, 62413),

Gene: Ares\_82 Start: 62782, Stop: 62288, Start Num: 4

Candidate Starts for Ares\_82:

(Start: 4 @62782 has 38 MA's), (Start: 5 @62755 has 1 MA's), (6, 62728), (10, 62662), (11, 62632), (12, 62611), (15, 62521), (17, 62422), (18, 62410), (19, 62392), (20, 62371),

Gene: Bananafish\_83 Start: 62719, Stop: 62225, Start Num: 4

Candidate Starts for Bananafish\_83:

(Start: 4 @62719 has 38 MA's), (Start: 5 @62692 has 1 MA's), (6, 62665), (10, 62599), (11, 62569), (12, 62548), (15, 62458), (17, 62359), (18, 62347), (19, 62329), (20, 62308),

Gene: Blocker23\_82 Start: 62781, Stop: 62287, Start Num: 4

Candidate Starts for Blocker23\_82:

(1, 63144), (2, 63120), (Start: 4 @62781 has 38 MA's), (Start: 5 @62754 has 1 MA's), (6, 62727), (10, 62661), (11, 62631), (12, 62610), (15, 62520), (17, 62421), (18, 62409), (19, 62391), (20, 62370),

Gene: Boyle\_82 Start: 62831, Stop: 62337, Start Num: 4

Candidate Starts for Boyle\_82:

(Start: 4 @62831 has 38 MA's), (Start: 5 @62804 has 1 MA's), (6, 62777), (10, 62711), (11, 62681), (12, 62660), (15, 62570), (17, 62471), (18, 62459), (19, 62441), (20, 62420),

Gene: Brownie5\_82 Start: 62832, Stop: 62338, Start Num: 4

Candidate Starts for Brownie5\_82:

(1, 63192), (2, 63168), (Start: 4 @62832 has 38 MA's), (Start: 5 @62805 has 1 MA's), (6, 62778), (10, 62712), (11, 62682), (12, 62661), (15, 62571), (17, 62472), (18, 62460), (19, 62442), (20, 62421),

Gene: Calamitous\_83 Start: 62714, Stop: 62220, Start Num: 4

Candidate Starts for Calamitous\_83:

(Start: 4 @62714 has 38 MA's), (Start: 5 @62687 has 1 MA's), (6, 62660), (10, 62594), (11, 62564), (12, 62543), (15, 62453), (17, 62354), (18, 62342), (19, 62324), (20, 62303),

Gene: Causa\_175 Start: 94619, Stop: 94239, Start Num: 4

Candidate Starts for Causa\_175:

(Start: 4 @94619 has 38 MA's), (7, 94541), (9, 94502), (13, 94373),

Gene: Coffee\_81 Start: 62825, Stop: 62331, Start Num: 4

Candidate Starts for Coffee\_81:

(1, 63185), (2, 63161), (Start: 4 @62825 has 38 MA's), (Start: 5 @62798 has 1 MA's), (6, 62771), (10, 62705), (11, 62675), (12, 62654), (15, 62564), (17, 62465), (18, 62453), (19, 62435), (20, 62414),

Gene: E3\_gp95 Start: 54193, Stop: 54597, Start Num: 8

Candidate Starts for E3\_gp95:

(8, 54193), (14, 54361), (16, 54397),

Gene: Eaglehorse\_82 Start: 62708, Stop: 62214, Start Num: 4

Candidate Starts for Eaglehorse\_82:

(Start: 4 @62708 has 38 MA's), (Start: 5 @62681 has 1 MA's), (6, 62654), (10, 62588), (11, 62558), (12, 62537), (15, 62447), (17, 62348), (18, 62336), (19, 62318), (20, 62297),

Gene: Faze9\_81 Start: 62846, Stop: 62352, Start Num: 4

Candidate Starts for Faze9\_81:

(Start: 4 @62846 has 38 MA's), (Start: 5 @62819 has 1 MA's), (6, 62792), (10, 62726), (11, 62696), (12, 62675), (15, 62585), (17, 62486), (18, 62474), (19, 62456), (20, 62435),

Gene: FrenchFry\_83 Start: 62833, Stop: 62339, Start Num: 4

Candidate Starts for FrenchFry\_83:

(Start: 4 @62833 has 38 MA's), (Start: 5 @62806 has 1 MA's), (6, 62779), (10, 62713), (11, 62683), (12, 62662), (15, 62572), (17, 62473), (18, 62461), (19, 62443), (20, 62422),

Gene: Glass\_84 Start: 62840, Stop: 62346, Start Num: 4

Candidate Starts for Glass\_84:

(Start: 4 @62840 has 38 MA's), (Start: 5 @62813 has 1 MA's), (6, 62786), (10, 62720), (11, 62690), (12, 62669), (15, 62579), (17, 62480), (18, 62468), (19, 62450), (20, 62429),

Gene: Godines\_82 Start: 62746, Stop: 62252, Start Num: 4

Candidate Starts for Godines\_82:

(Start: 4 @62746 has 38 MA's), (Start: 5 @62719 has 1 MA's), (6, 62692), (10, 62626), (11, 62596), (12, 62575), (15, 62485), (17, 62386), (19, 62356), (20, 62335),

Gene: Hedgerow\_82 Start: 62797, Stop: 62303, Start Num: 4

Candidate Starts for Hedgerow\_82:

(Start: 4 @62797 has 38 MA's), (Start: 5 @62770 has 1 MA's), (6, 62743), (10, 62677), (11, 62647), (12, 62626), (15, 62536), (17, 62437), (18, 62425), (19, 62407), (20, 62386),

Gene: Holeinone\_82 Start: 62687, Stop: 62193, Start Num: 4

Candidate Starts for Holeinone\_82:

(Start: 4 @62687 has 38 MA's), (Start: 5 @62660 has 1 MA's), (6, 62633), (10, 62567), (11, 62537), (12, 62516), (15, 62426), (17, 62327), (18, 62315), (19, 62297), (20, 62276),

Gene: ItsyBitsy1\_79 Start: 62915, Stop: 62421, Start Num: 4

Candidate Starts for ItsyBitsy1\_79:

(1, 63275), (2, 63251), (Start: 4 @62915 has 38 MA's), (Start: 5 @62888 has 1 MA's), (6, 62861), (10, 62795), (11, 62765), (12, 62744), (15, 62654), (17, 62555), (19, 62525), (20, 62504),

Gene: Kaleb\_82 Start: 62843, Stop: 62349, Start Num: 4

Candidate Starts for Kaleb\_82:

(Start: 4 @62843 has 38 MA's), (Start: 5 @62816 has 1 MA's), (6, 62789), (10, 62723), (11, 62693), (12, 62672), (15, 62582), (17, 62483), (18, 62471), (19, 62453), (20, 62432),

Gene: Kheth\_82 Start: 62748, Stop: 62254, Start Num: 4

Candidate Starts for Kheth\_82:

(Start: 4 @62748 has 38 MA's), (Start: 5 @62721 has 1 MA's), (6, 62694), (10, 62628), (11, 62598), (12, 62577), (15, 62487), (17, 62388), (18, 62376), (19, 62358), (20, 62337),

Gene: Kolhan\_83 Start: 62736, Stop: 62242, Start Num: 4

Candidate Starts for Kolhan\_83:

(Start: 4 @62736 has 38 MA's), (Start: 5 @62709 has 1 MA's), (6, 62682), (10, 62616), (11, 62586), (12, 62565), (15, 62475), (17, 62376), (18, 62364), (19, 62346), (20, 62325),

Gene: Lars\_83 Start: 62812, Stop: 62318, Start Num: 4

Candidate Starts for Lars\_83:

(Start: 4 @62812 has 38 MA's), (Start: 5 @62785 has 1 MA's), (6, 62758), (10, 62692), (11, 62662), (12, 62641), (15, 62551), (17, 62452), (18, 62440), (19, 62422), (20, 62401),

Gene: Laurie\_81 Start: 62150, Stop: 61656, Start Num: 4

Candidate Starts for Laurie\_81:

(Start: 4 @62150 has 38 MA's), (Start: 5 @62123 has 1 MA's), (6, 62096), (10, 62030), (11, 62000), (12, 61979), (15, 61889), (17, 61790), (19, 61760), (20, 61739),

Gene: Lephleur\_82 Start: 62669, Stop: 62175, Start Num: 4

Candidate Starts for Lephleur\_82:

(1, 63029), (2, 63005), (Start: 4 @62669 has 38 MA's), (Start: 5 @62642 has 1 MA's), (6, 62615), (10, 62549), (11, 62519), (12, 62498), (15, 62408), (17, 62309), (18, 62297), (19, 62279), (20, 62258),

Gene: LilSmirk\_82 Start: 62707, Stop: 62213, Start Num: 4

Candidate Starts for LilSmirk\_82:

(Start: 4 @62707 has 38 MA's), (Start: 5 @62680 has 1 MA's), (6, 62653), (10, 62587), (11, 62557), (12, 62536), (15, 62446), (17, 62347), (18, 62335), (19, 62317), (20, 62296),

Gene: LizLemon\_82 Start: 62839, Stop: 62345, Start Num: 4

Candidate Starts for LizLemon\_82:

(Start: 4 @62839 has 38 MA's), (Start: 5 @62812 has 1 MA's), (6, 62785), (10, 62719), (11, 62689), (12, 62668), (15, 62578), (17, 62479), (18, 62467), (19, 62449), (20, 62428),

Gene: MasterPo\_83 Start: 62709, Stop: 62215, Start Num: 4

Candidate Starts for MasterPo\_83:

(1, 63069), (2, 63045), (Start: 4 @62709 has 38 MA's), (Start: 5 @62682 has 1 MA's), (6, 62655), (10, 62589), (11, 62559), (12, 62538), (15, 62448), (17, 62349), (18, 62337), (19, 62319), (20, 62298),

Gene: Opia\_83 Start: 62732, Stop: 62238, Start Num: 4

Candidate Starts for Opia\_83:

(Start: 4 @62732 has 38 MA's), (Start: 5 @62705 has 1 MA's), (6, 62678), (10, 62612), (11, 62582), (12, 62561), (15, 62471), (17, 62372), (18, 62360), (19, 62342), (20, 62321),

Gene: Phantasmagoria\_81 Start: 62715, Stop: 62221, Start Num: 4

Candidate Starts for Phantasmagoria\_81:

(Start: 4 @62715 has 38 MA's), (Start: 5 @62688 has 1 MA's), (6, 62661), (10, 62595), (11, 62565), (12, 62544), (15, 62454), (17, 62355), (18, 62343), (19, 62325), (20, 62304),

Gene: PrinceCharming\_82 Start: 62761, Stop: 62267, Start Num: 4

Candidate Starts for PrinceCharming\_82:

(1, 63121), (2, 63097), (Start: 4 @62761 has 38 MA's), (Start: 5 @62734 has 1 MA's), (6, 62707), (10, 62641), (11, 62611), (12, 62590), (15, 62500), (17, 62401), (18, 62389), (19, 62371), (20, 62350),

Gene: Qyrzula\_73 Start: 62827, Stop: 62360, Start Num: 5

Candidate Starts for Qyrzula\_73:

(Start: 4 @62854 has 38 MA's), (Start: 5 @62827 has 1 MA's), (6, 62800), (10, 62734), (11, 62704), (12, 62683), (15, 62593), (17, 62494), (18, 62482), (19, 62464), (20, 62443),

Gene: Rhinoforte\_82 Start: 62750, Stop: 62256, Start Num: 4

Candidate Starts for Rhinoforte\_82:

(3, 62900), (Start: 4 @62750 has 38 MA's), (Start: 5 @62723 has 1 MA's), (6, 62696), (10, 62630), (11, 62600), (12, 62579), (15, 62489), (17, 62390), (18, 62378), (19, 62360), (20, 62339),

Gene: Rosebush\_80 Start: 62823, Stop: 62329, Start Num: 4

Candidate Starts for Rosebush\_80:

(Start: 4 @62823 has 38 MA's), (Start: 5 @62796 has 1 MA's), (6, 62769), (10, 62703), (11, 62673), (12, 62652), (15, 62562), (17, 62463), (18, 62451), (19, 62433), (20, 62412),

Gene: Sabella\_82 Start: 62660, Stop: 62166, Start Num: 4

Candidate Starts for Sabella\_82:

(1, 63020), (2, 62996), (Start: 4 @62660 has 38 MA's), (Start: 5 @62633 has 1 MA's), (6, 62606), (10, 62540), (11, 62510), (12, 62489), (15, 62399), (17, 62300), (18, 62288), (19, 62270), (20, 62249),

Gene: StAugustine\_169 Start: 94603, Stop: 94223, Start Num: 4

Candidate Starts for StAugustine\_169:

(Start: 4 @94603 has 38 MA's), (7, 94525), (9, 94486), (13, 94357),

Gene: TA17A\_85 Start: 62666, Stop: 62172, Start Num: 4

Candidate Starts for TA17A\_85:

(Start: 4 @62666 has 38 MA's), (Start: 5 @62639 has 1 MA's), (6, 62612), (10, 62546), (11, 62516), (12, 62495), (15, 62405), (17, 62306), (18, 62294), (19, 62276), (20, 62255),

Gene: Tinciduntolum\_83 Start: 62831, Stop: 62337, Start Num: 4

Candidate Starts for Tinciduntolum\_83:

(1, 63191), (2, 63167), (Start: 4 @62831 has 38 MA's), (Start: 5 @62804 has 1 MA's), (6, 62777), (10, 62711), (11, 62681), (12, 62660), (15, 62570), (17, 62471), (18, 62459), (19, 62441), (20, 62420),

Gene: Tres\_82 Start: 62682, Stop: 62188, Start Num: 4

Candidate Starts for Tres\_82:

(1, 63042), (2, 63018), (Start: 4 @62682 has 38 MA's), (Start: 5 @62655 has 1 MA's), (6, 62628), (10, 62562), (11, 62532), (12, 62511), (15, 62421), (17, 62322), (18, 62310), (19, 62292), (20, 62271),

Gene: Vic9\_00080 Start: 63216, Stop: 62722, Start Num: 4

Candidate Starts for Vic9\_00080:

(Start: 4 @63216 has 38 MA's), (Start: 5 @63189 has 1 MA's), (6, 63162), (10, 63096), (11, 63066), (12, 63045), (15, 62955), (17, 62856), (19, 62826), (20, 62805), (21, 62766),

Gene: West99\_82 Start: 62853, Stop: 62359, Start Num: 4

Candidate Starts for West99\_82:

(Start: 4 @62853 has 38 MA's), (Start: 5 @62826 has 1 MA's), (6, 62799), (10, 62733), (11, 62703), (12, 62682), (15, 62592), (17, 62493), (18, 62481), (19, 62463), (20, 62442),