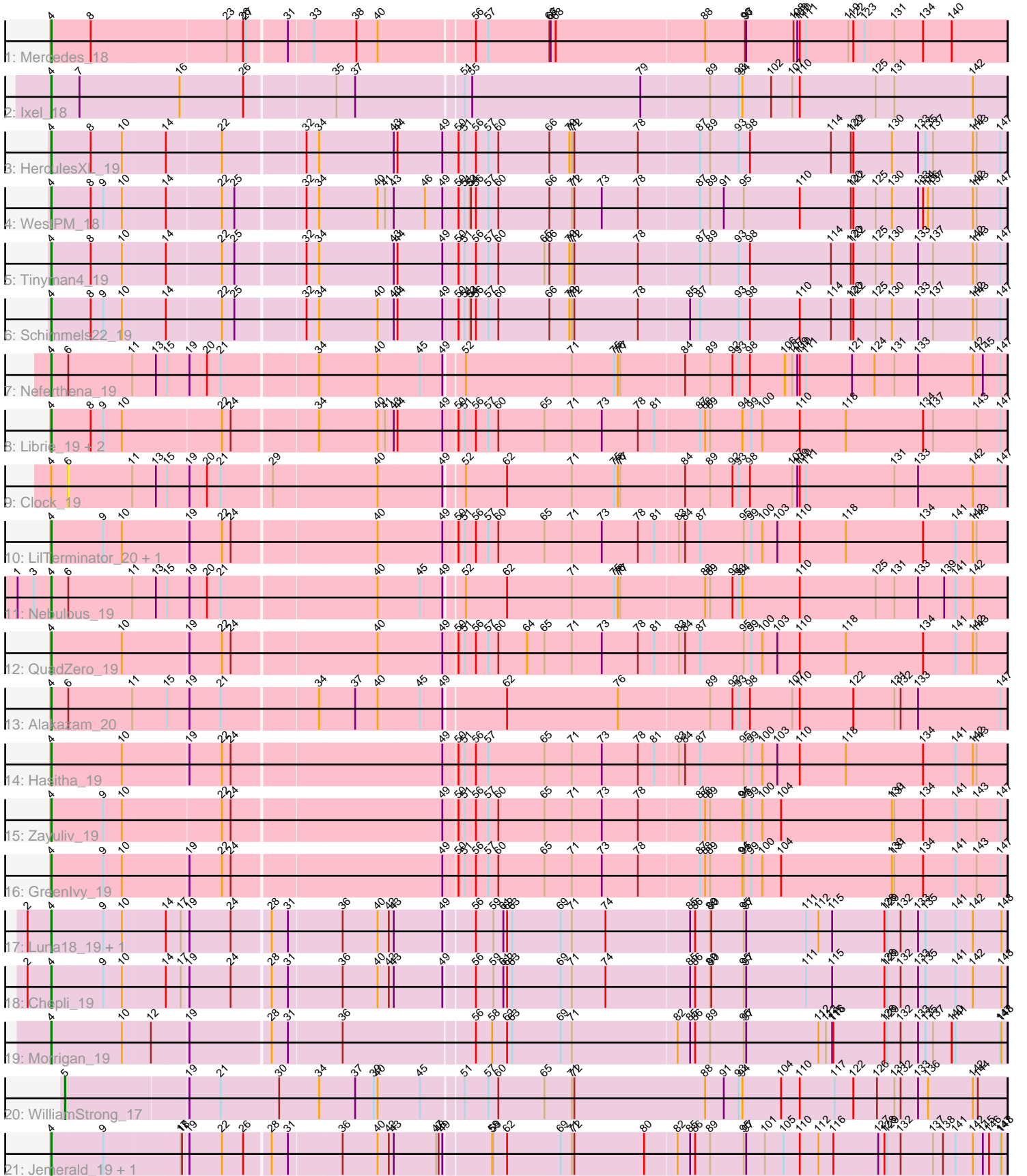


# Pham 4166



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 4166 Report

This analysis was run 07/09/24 on database version 566.

Pham number 4166 has 26 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Mercedes\_18
- Track 2 : Ixel\_18
- Track 3 : HerculesXL\_19
- Track 4 : WestPM\_18
- Track 5 : Tinyman4\_19
- Track 6 : Schimmels22\_19
- Track 7 : Neferthena\_19
- Track 8 : Librie\_19, Fulton\_20, CaptainRex\_19
- Track 9 : Clock\_19
- Track 10 : LilTerminator\_20, Zepp\_20
- Track 11 : Nebulous\_19
- Track 12 : QuadZero\_19
- Track 13 : Alakazam\_20
- Track 14 : Hasitha\_19
- Track 15 : Zayuliv\_19
- Track 16 : Greenlvy\_19
- Track 17 : Luna18\_19, KatChan\_19
- Track 18 : Chepli\_19
- Track 19 : Morigan\_19
- Track 20 : WilliamStrong\_17
- Track 21 : Jemerald\_19, Juicer\_19

### ***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 22 of the 23 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alakazam\_20, CaptainRex\_19, Chepli\_19, Fulton\_20, Greenlvy\_19, Hasitha\_19, HerculesXL\_19, Ixel\_18, Jemerald\_19, Juicer\_19, KatChan\_19, Librie\_19, LilTerminator\_20, Luna18\_19, Mercedes\_18, Morigan\_19, Nebulous\_19, Neferthena\_19, QuadZero\_19, Schimmels22\_19, Tinyman4\_19, WestPM\_18, Zayuliv\_19, Zepp\_20,

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

- Clock\_19,

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

- WilliamStrong\_17,

### **Summary by start number:**

Start 4:

- Found in 25 of 26 ( 96.2% ) of genes in pham
- Manual Annotations of this start: 22 of 23
- Called 96.0% of time when present
- Phage (with cluster) where this start called: Alakazam\_20 (EA5), CaptainRex\_19 (EA5), Chepli\_19 (EA6), Fulton\_20 (EA5), GreenIvy\_19 (EA5), Hasitha\_19 (EA5), HerculesXL\_19 (EA11), Ixel\_18 (EA11), Jemerald\_19 (EA6), Juicer\_19 (EA6), KatChan\_19 (EA6), Librie\_19 (EA5), LilTerminator\_20 (EA5), Luna18\_19 (EA6), Mercedes\_18 (EA), Morrigan\_19 (EA6), Nebulous\_19 (EA5), Neferthena\_19 (EA5), QuadZero\_19 (EA5), Schimmels22\_19 (EA11), Tinyman4\_19 (EA11), WestPM\_18 (EA11), Zayuliv\_19 (EA5), Zepp\_20 (EA5),

Start 5:

- Found in 1 of 26 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 1 of 23
- Called 100.0% of time when present
- Phage (with cluster) where this start called: WilliamStrong\_17 (EA6),

Start 6:

- Found in 4 of 26 ( 15.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Clock\_19 (EA5),

### **Summary by clusters:**

There are 4 clusters represented in this pham: EA, EA6, EA5, EA11,

Info for manual annotations of cluster EA:

- Start number 4 was manually annotated 1 time for cluster EA.

Info for manual annotations of cluster EA11:

- Start number 4 was manually annotated 5 times for cluster EA11.

Info for manual annotations of cluster EA5:

- Start number 4 was manually annotated 10 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 4 was manually annotated 6 times for cluster EA6.
- Start number 5 was manually annotated 1 time for cluster EA6.

### **Gene Information:**

Gene: Alakazam\_20 Start: 13087, Stop: 15327, Start Num: 4

Candidate Starts for Alakazam\_20:

(Start: 4 @13087 has 22 MA's), (6, 13126), (11, 13279), (15, 13363), (19, 13414), (21, 13489), (34, 13705), (37, 13792), (40, 13846), (45, 13945), (49, 13999), (62, 14137), (76, 14401), (89, 14614), (92, 14668), (93, 14683), (98, 14710), (107, 14812), (110, 14827), (122, 14956), (131, 15055), (132, 15070), (133, 15112), (147, 15310),

Gene: CaptainRex\_19 Start: 12307, Stop: 14550, Start Num: 4

Candidate Starts for CaptainRex\_19:

(Start: 4 @12307 has 22 MA's), (8, 12400), (9, 12430), (10, 12475), (22, 12703), (24, 12724), (34, 12916), (40, 13054), (41, 13072), (43, 13093), (44, 13099), (49, 13207), (50, 13240), (51, 13255), (56, 13282), (57, 13312), (60, 13336), (65, 13447), (71, 13513), (73, 13585), (78, 13672), (81, 13711), (87, 13813), (88, 13825), (89, 13837), (94, 13915), (99, 13936), (100, 13963), (110, 14053), (118, 14164), (134, 14350), (137, 14374), (143, 14476), (147, 14533),

Gene: Chepli\_19 Start: 12294, Stop: 14522, Start Num: 4

Candidate Starts for Chepli\_19:

(2, 12237), (Start: 4 @12294 has 22 MA's), (9, 12417), (10, 12462), (14, 12564), (17, 12597), (19, 12612), (24, 12711), (28, 12798), (31, 12834), (36, 12957), (40, 13041), (42, 13068), (43, 13080), (49, 13197), (56, 13260), (59, 13302), (61, 13326), (62, 13335), (63, 13347), (69, 13464), (71, 13488), (74, 13569), (85, 13764), (86, 13776), (89, 13812), (90, 13815), (95, 13893), (97, 13899), (111, 14040), (115, 14103), (128, 14229), (129, 14235), (132, 14268), (133, 14310), (135, 14328), (141, 14397), (142, 14439), (148, 14508),

Gene: Clock\_19 Start: 13078, Stop: 15276, Start Num: 6

Candidate Starts for Clock\_19:

(Start: 4 @13039 has 22 MA's), (6, 13078), (11, 13231), (13, 13288), (15, 13315), (19, 13366), (20, 13408), (21, 13441), (29, 13555), (40, 13798), (49, 13951), (52, 13990), (62, 14089), (71, 14242), (75, 14344), (76, 14353), (77, 14359), (84, 14506), (89, 14566), (92, 14620), (93, 14635), (98, 14662), (107, 14764), (109, 14776), (110, 14779), (111, 14794), (131, 15007), (133, 15064), (142, 15193), (147, 15259),

Gene: Fulton\_20 Start: 12289, Stop: 14532, Start Num: 4

Candidate Starts for Fulton\_20:

(Start: 4 @12289 has 22 MA's), (8, 12382), (9, 12412), (10, 12457), (22, 12685), (24, 12706), (34, 12898), (40, 13036), (41, 13054), (43, 13075), (44, 13081), (49, 13189), (50, 13222), (51, 13237), (56, 13264), (57, 13294), (60, 13318), (65, 13429), (71, 13495), (73, 13567), (78, 13654), (81, 13693), (87, 13795), (88, 13807), (89, 13819), (94, 13897), (99, 13918), (100, 13945), (110, 14035), (118, 14146), (134, 14332), (137, 14356), (143, 14458), (147, 14515),

Gene: Greenlvy\_19 Start: 12306, Stop: 14549, Start Num: 4

Candidate Starts for Greenlvy\_19:

(Start: 4 @12306 has 22 MA's), (9, 12429), (10, 12474), (19, 12624), (22, 12702), (24, 12723), (49, 13206), (50, 13239), (51, 13254), (56, 13281), (57, 13311), (60, 13335), (65, 13446), (71, 13512), (73, 13584), (78, 13671), (87, 13812), (88, 13824), (89, 13836), (94, 13914), (95, 13917), (99, 13935), (100, 13962), (104, 14007), (130, 14274), (131, 14280), (134, 14349), (141, 14424), (143, 14475), (147, 14532),

Gene: Hasitha\_19 Start: 12307, Stop: 14550, Start Num: 4

Candidate Starts for Hasitha\_19:

(Start: 4 @12307 has 22 MA's), (10, 12475), (19, 12625), (22, 12703), (24, 12724), (49, 13207), (50, 13240), (51, 13255), (56, 13282), (57, 13312), (65, 13447), (71, 13513), (73, 13585), (78, 13672), (81, 13711), (83, 13762), (84, 13777), (87, 13813), (95, 13918), (99, 13936), (100, 13963), (103, 13999),

(110, 14053), (118, 14164), (134, 14350), (141, 14425), (142, 14467), (143, 14476),

Gene: HerculesXL\_19 Start: 12396, Stop: 14645, Start Num: 4

Candidate Starts for HerculesXL\_19:

(Start: 4 @12396 has 22 MA's), (8, 12489), (10, 12564), (14, 12666), (22, 12792), (32, 12975), (34, 13005), (43, 13182), (44, 13188), (49, 13296), (50, 13335), (51, 13350), (56, 13377), (57, 13407), (60, 13431), (66, 13554), (70, 13602), (71, 13608), (72, 13614), (78, 13767), (87, 13908), (89, 13932), (93, 14001), (98, 14028), (114, 14223), (120, 14271), (122, 14277), (130, 14370), (133, 14433), (135, 14451), (137, 14469), (142, 14562), (143, 14571), (147, 14628),

Gene: Ixel\_18 Start: 11985, Stop: 14213, Start Num: 4

Candidate Starts for Ixel\_18:

(Start: 4 @11985 has 22 MA's), (7, 12051), (16, 12285), (26, 12432), (35, 12636), (37, 12678), (51, 12921), (55, 12939), (79, 13344), (89, 13503), (93, 13572), (94, 13581), (102, 13650), (107, 13701), (110, 13716), (125, 13899), (131, 13944), (142, 14130),

Gene: Jemerald\_19 Start: 13251, Stop: 15479, Start Num: 4

Candidate Starts for Jemerald\_19:

(Start: 4 @13251 has 22 MA's), (9, 13374), (17, 13554), (18, 13557), (19, 13569), (22, 13647), (26, 13698), (28, 13755), (31, 13791), (36, 13914), (40, 13998), (42, 14025), (43, 14037), (47, 14139), (48, 14145), (49, 14154), (58, 14256), (59, 14259), (62, 14292), (69, 14421), (71, 14445), (72, 14451), (80, 14619), (82, 14691), (85, 14721), (86, 14733), (89, 14769), (95, 14850), (97, 14856), (101, 14901), (105, 14946), (110, 14982), (112, 15027), (116, 15063), (127, 15171), (128, 15186), (129, 15192), (132, 15225), (137, 15303), (138, 15327), (141, 15354), (142, 15396), (145, 15420), (146, 15435), (147, 15462), (148, 15465),

Gene: Juicer\_19 Start: 13251, Stop: 15479, Start Num: 4

Candidate Starts for Juicer\_19:

(Start: 4 @13251 has 22 MA's), (9, 13374), (17, 13554), (18, 13557), (19, 13569), (22, 13647), (26, 13698), (28, 13755), (31, 13791), (36, 13914), (40, 13998), (42, 14025), (43, 14037), (47, 14139), (48, 14145), (49, 14154), (58, 14256), (59, 14259), (62, 14292), (69, 14421), (71, 14445), (72, 14451), (80, 14619), (82, 14691), (85, 14721), (86, 14733), (89, 14769), (95, 14850), (97, 14856), (101, 14901), (105, 14946), (110, 14982), (112, 15027), (116, 15063), (127, 15171), (128, 15186), (129, 15192), (132, 15225), (137, 15303), (138, 15327), (141, 15354), (142, 15396), (145, 15420), (146, 15435), (147, 15462), (148, 15465),

Gene: KatChan\_19 Start: 12300, Stop: 14528, Start Num: 4

Candidate Starts for KatChan\_19:

(2, 12243), (Start: 4 @12300 has 22 MA's), (9, 12423), (10, 12468), (14, 12570), (17, 12603), (19, 12618), (24, 12717), (28, 12804), (31, 12840), (36, 12963), (40, 13047), (42, 13074), (43, 13086), (49, 13203), (56, 13266), (59, 13308), (61, 13332), (62, 13341), (63, 13353), (69, 13470), (71, 13494), (74, 13575), (85, 13770), (86, 13782), (89, 13818), (90, 13821), (95, 13899), (97, 13905), (111, 14046), (112, 14076), (115, 14109), (128, 14235), (129, 14241), (132, 14274), (133, 14316), (135, 14334), (141, 14403), (142, 14445), (148, 14514),

Gene: Librie\_19 Start: 12307, Stop: 14550, Start Num: 4

Candidate Starts for Librie\_19:

(Start: 4 @12307 has 22 MA's), (8, 12400), (9, 12430), (10, 12475), (22, 12703), (24, 12724), (34, 12916), (40, 13054), (41, 13072), (43, 13093), (44, 13099), (49, 13207), (50, 13240), (51, 13255), (56, 13282), (57, 13312), (60, 13336), (65, 13447), (71, 13513), (73, 13585), (78, 13672), (81, 13711), (87, 13813), (88, 13825), (89, 13837), (94, 13915), (99, 13936), (100, 13963), (110, 14053), (118, 14164), (134, 14350), (137, 14374), (143, 14476), (147, 14533),

Gene: LilTerminator\_20 Start: 12313, Stop: 14556, Start Num: 4

Candidate Starts for LilTerminator\_20:

(Start: 4 @12313 has 22 MA's), (9, 12436), (10, 12481), (19, 12631), (22, 12709), (24, 12730), (40, 13060), (49, 13213), (50, 13246), (51, 13261), (56, 13288), (57, 13318), (60, 13342), (65, 13453), (71, 13519), (73, 13591), (78, 13678), (81, 13717), (83, 13768), (84, 13783), (87, 13819), (95, 13924), (99, 13942), (100, 13969), (103, 14005), (110, 14059), (118, 14170), (134, 14356), (141, 14431), (142, 14473), (143, 14482),

Gene: Luna18\_19 Start: 12300, Stop: 14528, Start Num: 4

Candidate Starts for Luna18\_19:

(2, 12243), (Start: 4 @12300 has 22 MA's), (9, 12423), (10, 12468), (14, 12570), (17, 12603), (19, 12618), (24, 12717), (28, 12804), (31, 12840), (36, 12963), (40, 13047), (42, 13074), (43, 13086), (49, 13203), (56, 13266), (59, 13308), (61, 13332), (62, 13341), (63, 13353), (69, 13470), (71, 13494), (74, 13575), (85, 13770), (86, 13782), (89, 13818), (90, 13821), (95, 13899), (97, 13905), (111, 14046), (112, 14076), (115, 14109), (128, 14235), (129, 14241), (132, 14274), (133, 14316), (135, 14334), (141, 14403), (142, 14445), (148, 14514),

Gene: Mercedes\_18 Start: 12052, Stop: 14277, Start Num: 4

Candidate Starts for Mercedes\_18:

(Start: 4 @12052 has 22 MA's), (8, 12145), (23, 12457), (26, 12496), (27, 12502), (31, 12589), (33, 12646), (38, 12742), (40, 12793), (56, 13009), (57, 13039), (66, 13186), (67, 13189), (68, 13201), (88, 13552), (96, 13648), (97, 13651), (108, 13762), (109, 13771), (110, 13777), (111, 13792), (119, 13894), (122, 13906), (123, 13933), (131, 14005), (134, 14074), (140, 14143),

Gene: Morrigan\_19 Start: 13204, Stop: 15432, Start Num: 4

Candidate Starts for Morrigan\_19:

(Start: 4 @13204 has 22 MA's), (10, 13372), (12, 13438), (19, 13522), (28, 13708), (31, 13744), (36, 13867), (56, 14170), (58, 14209), (62, 14245), (63, 14257), (69, 14374), (71, 14398), (82, 14644), (85, 14674), (86, 14686), (89, 14722), (95, 14803), (97, 14809), (112, 14980), (113, 14998), (115, 15013), (116, 15016), (128, 15139), (129, 15145), (132, 15178), (133, 15220), (135, 15238), (137, 15256), (140, 15298), (141, 15307), (147, 15415), (148, 15418),

Gene: Nebulous\_19 Start: 13045, Stop: 15282, Start Num: 4

Candidate Starts for Nebulous\_19:

(1, 12964), (3, 13003), (Start: 4 @13045 has 22 MA's), (6, 13084), (11, 13237), (13, 13294), (15, 13321), (19, 13372), (20, 13414), (21, 13447), (40, 13804), (45, 13903), (49, 13957), (52, 13996), (62, 14095), (71, 14248), (75, 14350), (76, 14359), (77, 14365), (88, 14560), (89, 14572), (92, 14626), (93, 14641), (94, 14650), (110, 14785), (125, 14968), (131, 15013), (133, 15070), (139, 15130), (141, 15157), (142, 15199),

Gene: Neferthema\_19 Start: 13059, Stop: 15296, Start Num: 4

Candidate Starts for Neferthema\_19:

(Start: 4 @13059 has 22 MA's), (6, 13098), (11, 13251), (13, 13308), (15, 13335), (19, 13386), (20, 13428), (21, 13461), (34, 13677), (40, 13818), (45, 13917), (49, 13971), (52, 14010), (71, 14262), (75, 14364), (76, 14373), (77, 14379), (84, 14526), (89, 14586), (92, 14640), (93, 14655), (98, 14682), (106, 14766), (107, 14784), (109, 14796), (110, 14799), (111, 14814), (121, 14925), (124, 14979), (131, 15027), (133, 15084), (142, 15213), (145, 15237), (147, 15279),

Gene: QuadZero\_19 Start: 12319, Stop: 14562, Start Num: 4

Candidate Starts for QuadZero\_19:

(Start: 4 @12319 has 22 MA's), (10, 12487), (19, 12637), (22, 12715), (24, 12736), (40, 13066), (49, 13219), (50, 13252), (51, 13267), (56, 13294), (57, 13324), (60, 13348), (64, 13417), (65, 13459), (71, 13525), (73, 13597), (78, 13684), (81, 13723), (83, 13774), (84, 13789), (87, 13825), (95, 13930), (99,

13948), (100, 13975), (103, 14011), (110, 14065), (118, 14176), (134, 14362), (141, 14437), (142, 14479), (143, 14488),

Gene: Schimmels22\_19 Start: 12759, Stop: 15008, Start Num: 4

Candidate Starts for Schimmels22\_19:

(Start: 4 @12759 has 22 MA's), (8, 12852), (9, 12882), (10, 12927), (14, 13029), (22, 13155), (25, 13185), (32, 13338), (34, 13368), (40, 13506), (43, 13545), (44, 13551), (49, 13659), (50, 13698), (51, 13713), (53, 13725), (54, 13728), (56, 13740), (57, 13770), (60, 13794), (66, 13917), (70, 13965), (71, 13971), (72, 13977), (78, 14130), (85, 14247), (87, 14271), (93, 14364), (98, 14391), (110, 14511), (114, 14586), (120, 14634), (122, 14640), (125, 14694), (130, 14733), (133, 14796), (137, 14832), (142, 14925), (143, 14934), (147, 14991),

Gene: Tinyman4\_19 Start: 12396, Stop: 14645, Start Num: 4

Candidate Starts for Tinyman4\_19:

(Start: 4 @12396 has 22 MA's), (8, 12489), (10, 12564), (14, 12666), (22, 12792), (25, 12822), (32, 12975), (34, 13005), (43, 13182), (44, 13188), (49, 13296), (50, 13335), (51, 13350), (56, 13377), (57, 13407), (60, 13431), (65, 13542), (66, 13554), (70, 13602), (71, 13608), (72, 13614), (78, 13767), (87, 13908), (89, 13932), (93, 14001), (98, 14028), (114, 14223), (120, 14271), (122, 14277), (125, 14331), (130, 14370), (133, 14433), (137, 14469), (142, 14562), (143, 14571), (147, 14628),

Gene: WestPM\_18 Start: 12238, Stop: 14487, Start Num: 4

Candidate Starts for WestPM\_18:

(Start: 4 @12238 has 22 MA's), (8, 12331), (9, 12361), (10, 12406), (14, 12508), (22, 12634), (25, 12664), (32, 12817), (34, 12847), (40, 12985), (41, 13003), (43, 13024), (46, 13096), (49, 13138), (50, 13177), (51, 13192), (53, 13204), (54, 13207), (56, 13219), (57, 13249), (60, 13273), (66, 13396), (71, 13450), (72, 13456), (73, 13522), (78, 13609), (87, 13750), (89, 13774), (91, 13807), (95, 13855), (110, 13990), (120, 14113), (122, 14119), (125, 14173), (130, 14212), (133, 14275), (134, 14287), (136, 14299), (137, 14311), (142, 14404), (143, 14413), (147, 14470),

Gene: WilliamStrong\_17 Start: 12923, Stop: 15148, Start Num: 5

Candidate Starts for WilliamStrong\_17:

(Start: 5 @12923 has 1 MA's), (19, 13205), (21, 13280), (30, 13421), (34, 13517), (37, 13598), (39, 13643), (40, 13652), (45, 13751), (51, 13841), (57, 13898), (60, 13922), (65, 14033), (71, 14099), (72, 14105), (88, 14420), (91, 14465), (93, 14501), (94, 14510), (104, 14603), (110, 14648), (117, 14732), (122, 14777), (126, 14834), (131, 14876), (132, 14891), (133, 14933), (136, 14957), (142, 15065), (144, 15077),

Gene: Zayuliv\_19 Start: 12295, Stop: 14538, Start Num: 4

Candidate Starts for Zayuliv\_19:

(Start: 4 @12295 has 22 MA's), (9, 12418), (10, 12463), (22, 12691), (24, 12712), (49, 13195), (50, 13228), (51, 13243), (56, 13270), (57, 13300), (60, 13324), (65, 13435), (71, 13501), (73, 13573), (78, 13660), (87, 13801), (88, 13813), (89, 13825), (94, 13903), (95, 13906), (99, 13924), (100, 13951), (104, 13996), (130, 14263), (131, 14269), (134, 14338), (141, 14413), (143, 14464), (147, 14521),

Gene: Zepp\_20 Start: 12303, Stop: 14546, Start Num: 4

Candidate Starts for Zepp\_20:

(Start: 4 @12303 has 22 MA's), (9, 12426), (10, 12471), (19, 12621), (22, 12699), (24, 12720), (40, 13050), (49, 13203), (50, 13236), (51, 13251), (56, 13278), (57, 13308), (60, 13332), (65, 13443), (71, 13509), (73, 13581), (78, 13668), (81, 13707), (83, 13758), (84, 13773), (87, 13809), (95, 13914), (99, 13932), (100, 13959), (103, 13995), (110, 14049), (118, 14160), (134, 14346), (141, 14421), (142, 14463), (143, 14472),