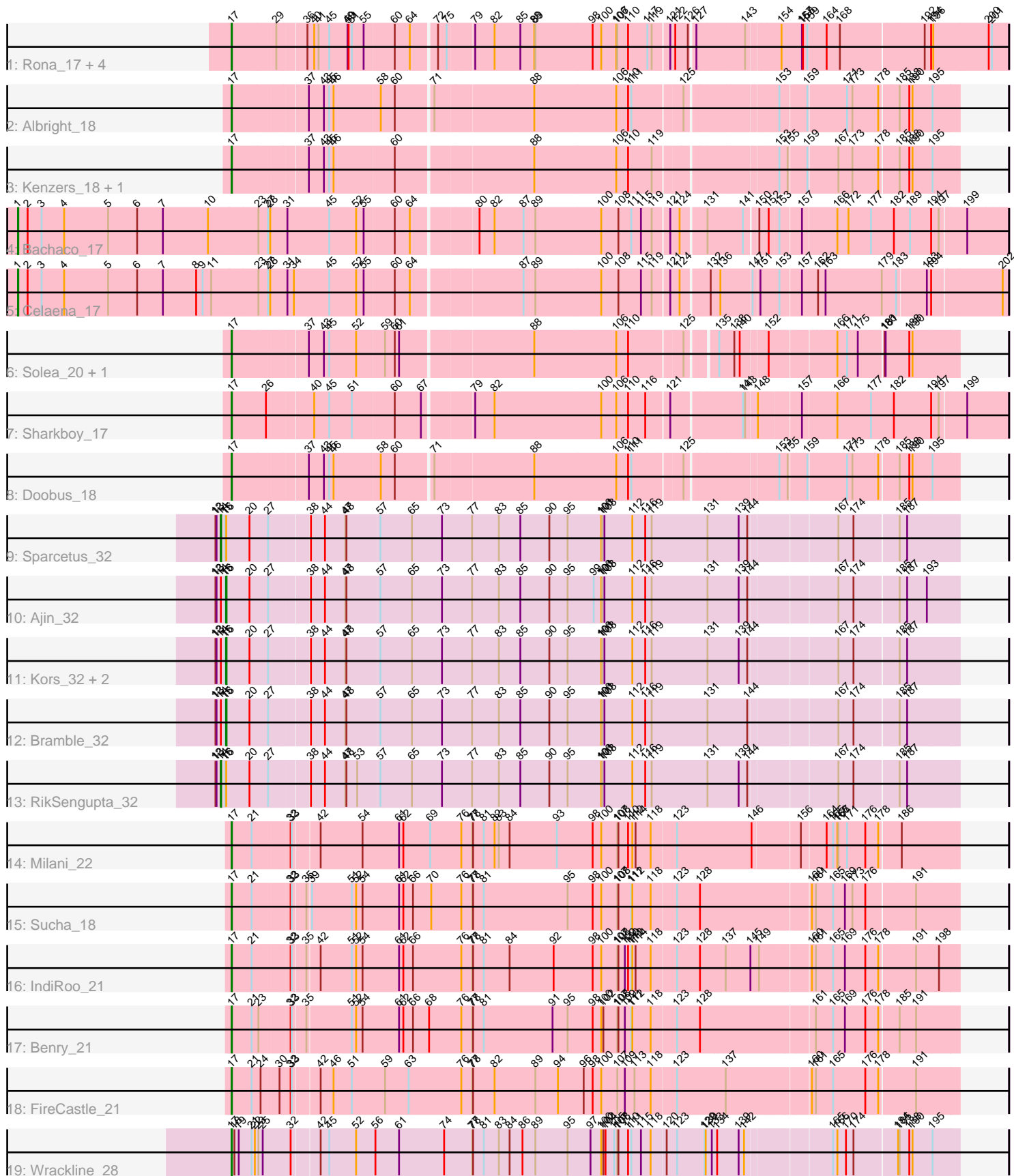


Pham 305246



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 305246 Report

This analysis was run 06/08/26 on database version 649.

Pham number 305246 has 27 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Rona\_17, Kieran\_17, ChiliPepper\_17, Kamdara\_17, Dismas\_17
- Track 2 : Albright\_18
- Track 3 : Kenzers\_18, Lynlen\_18
- Track 4 : Bachaco\_17
- Track 5 : Celaena\_17
- Track 6 : Solea\_20, Milomuff\_19
- Track 7 : Sharkboy\_17
- Track 8 : Doobus\_18
- Track 9 : Sparcetus\_32
- Track 10 : Ajin\_32
- Track 11 : Kors\_32, TinyMiny\_32, LordBart\_32
- Track 12 : Bramble\_32
- Track 13 : RikSengupta\_32
- Track 14 : Milani\_22
- Track 15 : Sucha\_18
- Track 16 : IndiRoo\_21
- Track 17 : Benry\_21
- Track 18 : FireCastle\_21
- Track 19 : Wrackline\_28

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

The start number called the most often in the published annotations is 17, it was called in 16 of the 25 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Albright\_18, Benry\_21, ChiliPepper\_17, Dismas\_17, Doobus\_18, FireCastle\_21, IndiRoo\_21, Kamdara\_17, Kenzers\_18, Kieran\_17, Lynlen\_18, Milani\_22, Milomuff\_19, Rona\_17, Sharkboy\_17, Solea\_20, Sucha\_18, Wrackline\_28,

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

- 

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

- Ajin\_32, Bachaco\_17, Bramble\_32, Celaena\_17, Kors\_32, LordBart\_32, RikSengupta\_32, Sparcetus\_32, TinyMiny\_32,

### Summary by start number:

#### Start 1:

- Found in 2 of 27 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 2 of 25
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bachaco\_17 (EB), Celaena\_17 (EB),

#### Start 14:

- Found in 7 of 27 ( 25.9% ) of genes in pham
- Manual Annotations of this start: 2 of 25
- Called 28.6% of time when present
- Phage (with cluster) where this start called: RikSengupta\_32 (EF), Sparcetus\_32 (EF),

#### Start 16:

- Found in 7 of 27 ( 25.9% ) of genes in pham
- Manual Annotations of this start: 5 of 25
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Ajin\_32 (EF), Bramble\_32 (EF), Kors\_32 (EF), LordBart\_32 (EF), TinyMiny\_32 (EF),

#### Start 17:

- Found in 18 of 27 ( 66.7% ) of genes in pham
- Manual Annotations of this start: 16 of 25
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Albright\_18 (EB), Benry\_21 (EJ), ChiliPepper\_17 (EB), Dismas\_17 (EB), Doobus\_18 (EB), FireCastle\_21 (EJ), IndiRoo\_21 (EJ), Kamdara\_17 (EB), Kenzers\_18 (EB), Kieran\_17 (EB), Lynlen\_18 (EB), Milani\_22 (EJ), Milomuff\_19 (EB), Rona\_17 (EB), Sharkboy\_17 (EB), Solea\_20 (EB), Sucha\_18 (EJ), Wrackline\_28 (GF),

### Summary by clusters:

There are 4 clusters represented in this pham: GF, EF, EJ, EB,

#### Info for manual annotations of cluster EB:

- Start number 1 was manually annotated 2 times for cluster EB.
- Start number 17 was manually annotated 10 times for cluster EB.

#### Info for manual annotations of cluster EF:

- Start number 14 was manually annotated 2 times for cluster EF.
- Start number 16 was manually annotated 5 times for cluster EF.

#### Info for manual annotations of cluster EJ:

- Start number 17 was manually annotated 5 times for cluster EJ.

#### Info for manual annotations of cluster GF:

- Start number 17 was manually annotated 1 time for cluster GF.

**Gene Information:**

Gene: Ajin\_32 Start: 18502, Stop: 20436, Start Num: 16

Candidate Starts for Ajin\_32:

(12, 18472), (13, 18475), (Start: 14 @18487 has 2 MA's), (15, 18499), (Start: 16 @18502 has 5 MA's), (20, 18562), (27, 18613), (38, 18703), (44, 18733), (47, 18790), (48, 18793), (57, 18883), (65, 18970), (73, 19051), (77, 19135), (83, 19210), (85, 19270), (90, 19351), (95, 19402), (99, 19474), (100, 19495), (101, 19498), (103, 19504), (112, 19582), (116, 19618), (119, 19636), (131, 19792), (139, 19876), (144, 19900), (167, 20116), (174, 20158), (185, 20275), (187, 20296), (193, 20347),

Gene: Albright\_18 Start: 13896, Stop: 15746, Start Num: 17

Candidate Starts for Albright\_18:

(Start: 17 @13896 has 16 MA's), (37, 14085), (43, 14127), (45, 14142), (46, 14154), (58, 14277), (60, 14316), (71, 14409), (88, 14667), (106, 14895), (110, 14928), (111, 14937), (125, 15060), (153, 15285), (159, 15351), (171, 15453), (173, 15468), (178, 15537), (185, 15585), (188, 15612), (190, 15621), (195, 15672),

Gene: Bachaco\_17 Start: 13521, Stop: 16133, Start Num: 1

Candidate Starts for Bachaco\_17:

(Start: 1 @13521 has 2 MA's), (2, 13548), (3, 13587), (4, 13650), (5, 13773), (6, 13854), (7, 13926), (10, 14052), (23, 14190), (27, 14217), (28, 14223), (31, 14271), (45, 14388), (52, 14463), (55, 14484), (60, 14562), (64, 14604), (80, 14760), (82, 14802), (87, 14883), (89, 14916), (100, 15099), (108, 15147), (111, 15183), (115, 15210), (119, 15240), (121, 15276), (124, 15297), (131, 15357), (141, 15453), (150, 15483), (152, 15507), (153, 15531), (157, 15585), (166, 15678), (172, 15708), (177, 15771), (182, 15834), (189, 15879), (194, 15936), (197, 15957), (199, 16023),

Gene: Benry\_21 Start: 14670, Stop: 16571, Start Num: 17

Candidate Starts for Benry\_21:

(Start: 17 @14670 has 16 MA's), (21, 14721), (23, 14739), (32, 14817), (33, 14820), (35, 14850), (51, 14967), (52, 14979), (54, 14997), (61, 15099), (62, 15111), (66, 15138), (68, 15183), (76, 15273), (77, 15303), (78, 15306), (81, 15336), (91, 15528), (95, 15570), (98, 15636), (100, 15660), (102, 15666), (107, 15705), (108, 15708), (109, 15726), (111, 15744), (112, 15747), (118, 15798), (123, 15858), (128, 15906), (161, 16194), (165, 16242), (169, 16275), (176, 16329), (178, 16362), (185, 16410), (191, 16452),

Gene: Bramble\_32 Start: 18468, Stop: 20402, Start Num: 16

Candidate Starts for Bramble\_32:

(12, 18438), (13, 18441), (Start: 14 @18453 has 2 MA's), (15, 18465), (Start: 16 @18468 has 5 MA's), (20, 18528), (27, 18579), (38, 18669), (44, 18699), (47, 18756), (48, 18759), (57, 18849), (65, 18936), (73, 19017), (77, 19101), (83, 19176), (85, 19236), (90, 19317), (95, 19368), (100, 19461), (101, 19464), (103, 19470), (112, 19548), (116, 19584), (119, 19602), (131, 19758), (144, 19866), (167, 20082), (174, 20124), (185, 20241), (187, 20262),

Gene: Celaena\_17 Start: 13457, Stop: 16075, Start Num: 1

Candidate Starts for Celaena\_17:

(Start: 1 @13457 has 2 MA's), (2, 13484), (3, 13523), (4, 13586), (5, 13709), (6, 13790), (7, 13862), (8, 13955), (9, 13973), (11, 13997), (23, 14126), (27, 14153), (28, 14159), (31, 14207), (34, 14225), (45, 14324), (52, 14399), (55, 14420), (60, 14498), (64, 14540), (87, 14819), (89, 14852), (100, 15035), (108, 15083), (115, 15146), (119, 15176), (121, 15212), (124, 15233), (132, 15302), (136, 15329), (147, 15407), (151, 15422), (153, 15473), (157, 15527), (162, 15572), (163, 15593), (179, 15746), (183, 15779), (193, 15857), (194, 15869), (202, 16058),

Gene: ChiliPepper\_17 Start: 13661, Stop: 15667, Start Num: 17

Candidate Starts for ChiliPepper\_17:

(Start: 17 @13661 has 16 MA's), (29, 13778), (36, 13847), (40, 13865), (41, 13877), (45, 13907), (49, 13958), (50, 13961), (51, 13970), (55, 14003), (60, 14081), (64, 14123), (72, 14180), (75, 14204), (79, 14267), (82, 14321), (85, 14393), (88, 14432), (89, 14435), (98, 14594), (100, 14618), (106, 14660), (107, 14663), (110, 14693), (117, 14747), (119, 14759), (121, 14795), (122, 14804), (126, 14837), (127, 14849), (143, 14978), (154, 15065), (157, 15122), (158, 15125), (159, 15137), (164, 15185), (168, 15221), (192, 15437), (194, 15455), (196, 15461), (200, 15611), (201, 15620),

Gene: Dismas\_17 Start: 13661, Stop: 15667, Start Num: 17

Candidate Starts for Dismas\_17:

(Start: 17 @13661 has 16 MA's), (29, 13778), (36, 13847), (40, 13865), (41, 13877), (45, 13907), (49, 13958), (50, 13961), (51, 13970), (55, 14003), (60, 14081), (64, 14123), (72, 14180), (75, 14204), (79, 14267), (82, 14321), (85, 14393), (88, 14432), (89, 14435), (98, 14594), (100, 14618), (106, 14660), (107, 14663), (110, 14693), (117, 14747), (119, 14759), (121, 14795), (122, 14804), (126, 14837), (127, 14849), (143, 14978), (154, 15065), (157, 15122), (158, 15125), (159, 15137), (164, 15185), (168, 15221), (192, 15437), (194, 15455), (196, 15461), (200, 15611), (201, 15620),

Gene: Doobus\_18 Start: 14247, Stop: 16097, Start Num: 17

Candidate Starts for Doobus\_18:

(Start: 17 @14247 has 16 MA's), (37, 14436), (43, 14478), (45, 14493), (46, 14505), (58, 14628), (60, 14667), (71, 14760), (88, 15018), (106, 15246), (110, 15279), (111, 15288), (125, 15411), (153, 15636), (155, 15657), (159, 15702), (171, 15804), (173, 15819), (178, 15888), (185, 15936), (188, 15963), (190, 15972), (195, 16023),

Gene: FireCastle\_21 Start: 16238, Stop: 18142, Start Num: 17

Candidate Starts for FireCastle\_21:

(Start: 17 @16238 has 16 MA's), (21, 16289), (24, 16313), (30, 16361), (32, 16385), (33, 16388), (42, 16448), (46, 16484), (51, 16535), (59, 16628), (63, 16694), (76, 16841), (77, 16871), (78, 16874), (82, 16934), (89, 17048), (94, 17111), (96, 17183), (98, 17204), (100, 17228), (107, 17273), (109, 17294), (113, 17321), (118, 17366), (123, 17426), (137, 17540), (160, 17756), (161, 17765), (165, 17813), (176, 17900), (178, 17933), (191, 18023),

Gene: IndiRoo\_21 Start: 14680, Stop: 16581, Start Num: 17

Candidate Starts for IndiRoo\_21:

(Start: 17 @14680 has 16 MA's), (21, 14731), (32, 14827), (33, 14830), (35, 14860), (42, 14890), (51, 14977), (52, 14989), (54, 15007), (61, 15109), (62, 15121), (66, 15148), (76, 15283), (77, 15313), (78, 15316), (81, 15346), (84, 15418), (92, 15541), (98, 15646), (100, 15670), (107, 15715), (108, 15718), (109, 15736), (110, 15745), (111, 15754), (112, 15757), (114, 15766), (118, 15808), (123, 15868), (128, 15916), (137, 15982), (145, 16048), (149, 16072), (160, 16195), (161, 16204), (165, 16252), (169, 16285), (176, 16339), (178, 16372), (191, 16462), (198, 16525),

Gene: Kamdara\_17 Start: 13660, Stop: 15666, Start Num: 17

Candidate Starts for Kamdara\_17:

(Start: 17 @13660 has 16 MA's), (29, 13777), (36, 13846), (40, 13864), (41, 13876), (45, 13906), (49, 13957), (50, 13960), (51, 13969), (55, 14002), (60, 14080), (64, 14122), (72, 14179), (75, 14203), (79, 14266), (82, 14320), (85, 14392), (88, 14431), (89, 14434), (98, 14593), (100, 14617), (106, 14659), (107, 14662), (110, 14692), (117, 14746), (119, 14758), (121, 14794), (122, 14803), (126, 14836), (127, 14848), (143, 14977), (154, 15064), (157, 15121), (158, 15124), (159, 15136), (164, 15184), (168, 15220), (192, 15436), (194, 15454), (196, 15460), (200, 15610), (201, 15619),

Gene: Kenzers\_18 Start: 13986, Stop: 15836, Start Num: 17

Candidate Starts for Kenzers\_18:

(Start: 17 @13986 has 16 MA's), (37, 14175), (43, 14217), (45, 14232), (46, 14244), (60, 14406), (88, 14757), (106, 14985), (110, 15018), (119, 15084), (153, 15375), (155, 15396), (159, 15441), (167, 15519), (173, 15558), (178, 15627), (185, 15675), (188, 15702), (190, 15711), (195, 15762),

Gene: Kieran\_17 Start: 13664, Stop: 15670, Start Num: 17

Candidate Starts for Kieran\_17:

(Start: 17 @13664 has 16 MA's), (29, 13781), (36, 13850), (40, 13868), (41, 13880), (45, 13910), (49, 13961), (50, 13964), (51, 13973), (55, 14006), (60, 14084), (64, 14126), (72, 14183), (75, 14207), (79, 14270), (82, 14324), (85, 14396), (88, 14435), (89, 14438), (98, 14597), (100, 14621), (106, 14663), (107, 14666), (110, 14696), (117, 14750), (119, 14762), (121, 14798), (122, 14807), (126, 14840), (127, 14852), (143, 14981), (154, 15068), (157, 15125), (158, 15128), (159, 15140), (164, 15188), (168, 15224), (192, 15440), (194, 15458), (196, 15464), (200, 15614), (201, 15623),

Gene: Kors\_32 Start: 18548, Stop: 20482, Start Num: 16

Candidate Starts for Kors\_32:

(12, 18518), (13, 18521), (Start: 14 @18533 has 2 MA's), (15, 18545), (Start: 16 @18548 has 5 MA's), (20, 18608), (27, 18659), (38, 18749), (44, 18779), (47, 18836), (48, 18839), (57, 18929), (65, 19016), (73, 19097), (77, 19181), (83, 19256), (85, 19316), (90, 19397), (95, 19448), (100, 19541), (101, 19544), (103, 19550), (112, 19628), (116, 19664), (119, 19682), (131, 19838), (139, 19922), (144, 19946), (167, 20162), (174, 20204), (185, 20321), (187, 20342),

Gene: LordBart\_32 Start: 18464, Stop: 20398, Start Num: 16

Candidate Starts for LordBart\_32:

(12, 18434), (13, 18437), (Start: 14 @18449 has 2 MA's), (15, 18461), (Start: 16 @18464 has 5 MA's), (20, 18524), (27, 18575), (38, 18665), (44, 18695), (47, 18752), (48, 18755), (57, 18845), (65, 18932), (73, 19013), (77, 19097), (83, 19172), (85, 19232), (90, 19313), (95, 19364), (100, 19457), (101, 19460), (103, 19466), (112, 19544), (116, 19580), (119, 19598), (131, 19754), (139, 19838), (144, 19862), (167, 20078), (174, 20120), (185, 20237), (187, 20258),

Gene: Lynlen\_18 Start: 13986, Stop: 15836, Start Num: 17

Candidate Starts for Lynlen\_18:

(Start: 17 @13986 has 16 MA's), (37, 14175), (43, 14217), (45, 14232), (46, 14244), (60, 14406), (88, 14757), (106, 14985), (110, 15018), (119, 15084), (153, 15375), (155, 15396), (159, 15441), (167, 15519), (173, 15558), (178, 15627), (185, 15675), (188, 15702), (190, 15711), (195, 15762),

Gene: Milani\_22 Start: 15329, Stop: 17206, Start Num: 17

Candidate Starts for Milani\_22:

(Start: 17 @15329 has 16 MA's), (21, 15380), (32, 15476), (33, 15479), (42, 15539), (54, 15656), (61, 15758), (62, 15770), (69, 15845), (76, 15932), (77, 15962), (78, 15965), (81, 15995), (82, 16025), (83, 16037), (84, 16067), (93, 16199), (98, 16295), (100, 16319), (107, 16364), (108, 16367), (110, 16394), (112, 16406), (114, 16415), (118, 16457), (123, 16517), (146, 16685), (156, 16802), (164, 16859), (165, 16877), (166, 16889), (167, 16892), (171, 16916), (176, 16964), (178, 16997), (186, 17051),

Gene: Milomuff\_19 Start: 14384, Stop: 16222, Start Num: 17

Candidate Starts for Milomuff\_19:

(Start: 17 @14384 has 16 MA's), (37, 14573), (43, 14615), (45, 14630), (52, 14705), (59, 14777), (60, 14804), (61, 14816), (88, 15155), (106, 15383), (110, 15416), (125, 15548), (135, 15614), (138, 15653), (140, 15668), (152, 15737), (166, 15905), (171, 15932), (175, 15962), (180, 16022), (181, 16025), (188, 16088), (190, 16097),

Gene: RikSengupta\_32 Start: 18570, Stop: 20519, Start Num: 14

Candidate Starts for RikSengupta\_32:

(12, 18555), (13, 18558), (Start: 14 @18570 has 2 MA's), (15, 18582), (Start: 16 @18585 has 5 MA's), (20, 18645), (27, 18696), (38, 18786), (44, 18816), (47, 18873), (48, 18876), (53, 18906), (57, 18966), (65, 19053), (73, 19134), (77, 19218), (83, 19293), (85, 19353), (90, 19434), (95, 19485), (100, 19578), (101, 19581), (103, 19587), (112, 19665), (116, 19701), (119, 19719), (131, 19875), (139, 19959), (144, 19983), (167, 20199), (174, 20241), (185, 20358), (187, 20379),

Gene: Rona\_17 Start: 13661, Stop: 15667, Start Num: 17

Candidate Starts for Rona\_17:

(Start: 17 @13661 has 16 MA's), (29, 13778), (36, 13847), (40, 13865), (41, 13877), (45, 13907), (49, 13958), (50, 13961), (51, 13970), (55, 14003), (60, 14081), (64, 14123), (72, 14180), (75, 14204), (79, 14267), (82, 14321), (85, 14393), (88, 14432), (89, 14435), (98, 14594), (100, 14618), (106, 14660), (107, 14663), (110, 14693), (117, 14747), (119, 14759), (121, 14795), (122, 14804), (126, 14837), (127, 14849), (143, 14978), (154, 15065), (157, 15122), (158, 15125), (159, 15137), (164, 15185), (168, 15221), (192, 15437), (194, 15455), (196, 15461), (200, 15611), (201, 15620),

Gene: Sharkboy\_17 Start: 13660, Stop: 15654, Start Num: 17

Candidate Starts for Sharkboy\_17:

(Start: 17 @13660 has 16 MA's), (26, 13753), (40, 13864), (45, 13906), (51, 13969), (60, 14080), (67, 14149), (79, 14266), (82, 14320), (100, 14617), (106, 14659), (110, 14692), (116, 14740), (121, 14794), (141, 14971), (143, 14977), (148, 15001), (157, 15106), (166, 15199), (177, 15292), (182, 15355), (194, 15457), (197, 15478), (199, 15544),

Gene: Solea\_20 Start: 14384, Stop: 16222, Start Num: 17

Candidate Starts for Solea\_20:

(Start: 17 @14384 has 16 MA's), (37, 14573), (43, 14615), (45, 14630), (52, 14705), (59, 14777), (60, 14804), (61, 14816), (88, 15155), (106, 15383), (110, 15416), (125, 15548), (135, 15614), (138, 15653), (140, 15668), (152, 15737), (166, 15905), (171, 15932), (175, 15962), (180, 16022), (181, 16025), (188, 16088), (190, 16097),

Gene: Sparcetus\_32 Start: 18449, Stop: 20398, Start Num: 14

Candidate Starts for Sparcetus\_32:

(12, 18434), (13, 18437), (Start: 14 @18449 has 2 MA's), (15, 18461), (Start: 16 @18464 has 5 MA's), (20, 18524), (27, 18575), (38, 18665), (44, 18695), (47, 18752), (48, 18755), (57, 18845), (65, 18932), (73, 19013), (77, 19097), (83, 19172), (85, 19232), (90, 19313), (95, 19364), (100, 19457), (101, 19460), (103, 19466), (112, 19544), (116, 19580), (119, 19598), (131, 19754), (139, 19838), (144, 19862), (167, 20078), (174, 20120), (185, 20237), (187, 20258),

Gene: Sucha\_18 Start: 13667, Stop: 15568, Start Num: 17

Candidate Starts for Sucha\_18:

(Start: 17 @13667 has 16 MA's), (21, 13718), (32, 13814), (33, 13817), (35, 13847), (39, 13856), (51, 13964), (52, 13976), (54, 13994), (61, 14096), (62, 14108), (66, 14135), (70, 14186), (76, 14270), (77, 14300), (78, 14303), (81, 14333), (95, 14567), (98, 14633), (100, 14657), (107, 14702), (108, 14705), (111, 14741), (112, 14744), (118, 14795), (123, 14855), (128, 14903), (160, 15182), (161, 15191), (165, 15239), (169, 15272), (173, 15293), (176, 15326), (191, 15449),

Gene: TinyMiny\_32 Start: 18483, Stop: 20417, Start Num: 16

Candidate Starts for TinyMiny\_32:

(12, 18453), (13, 18456), (Start: 14 @18468 has 2 MA's), (15, 18480), (Start: 16 @18483 has 5 MA's), (20, 18543), (27, 18594), (38, 18684), (44, 18714), (47, 18771), (48, 18774), (57, 18864), (65, 18951), (73, 19032), (77, 19116), (83, 19191), (85, 19251), (90, 19332), (95, 19383), (100, 19476), (101, 19479), (103, 19485), (112, 19563), (116, 19599), (119, 19617), (131, 19773), (139, 19857), (144, 19881), (167, 20097), (174, 20139), (185, 20256), (187, 20277),

Gene: Wrackline\_28 Start: 15957, Stop: 17840, Start Num: 17

Candidate Starts for Wrackline\_28:

(Start: 17 @15957 has 16 MA's), (18, 15963), (19, 15972), (21, 16008), (22, 16017), (23, 16026), (25, 16038), (32, 16104), (42, 16167), (45, 16191), (52, 16266), (56, 16320), (61, 16386), (74, 16509), (77, 16587), (78, 16590), (81, 16620), (83, 16662), (84, 16692), (86, 16728), (89, 16764), (95, 16854), (97, 16914), (100, 16944), (102, 16950), (104, 16956), (105, 16980), (107, 16989), (108, 16992), (110, 17019), (111, 17028), (115, 17055), (118, 17082), (120, 17121), (123, 17142), (129, 17202), (130, 17205), (133, 17214), (134, 17226), (139, 17280), (142, 17295), (165, 17508), (166, 17520), (170, 17544), (174, 17565), (184, 17676), (185, 17679), (188, 17706), (190, 17715), (195, 17766),