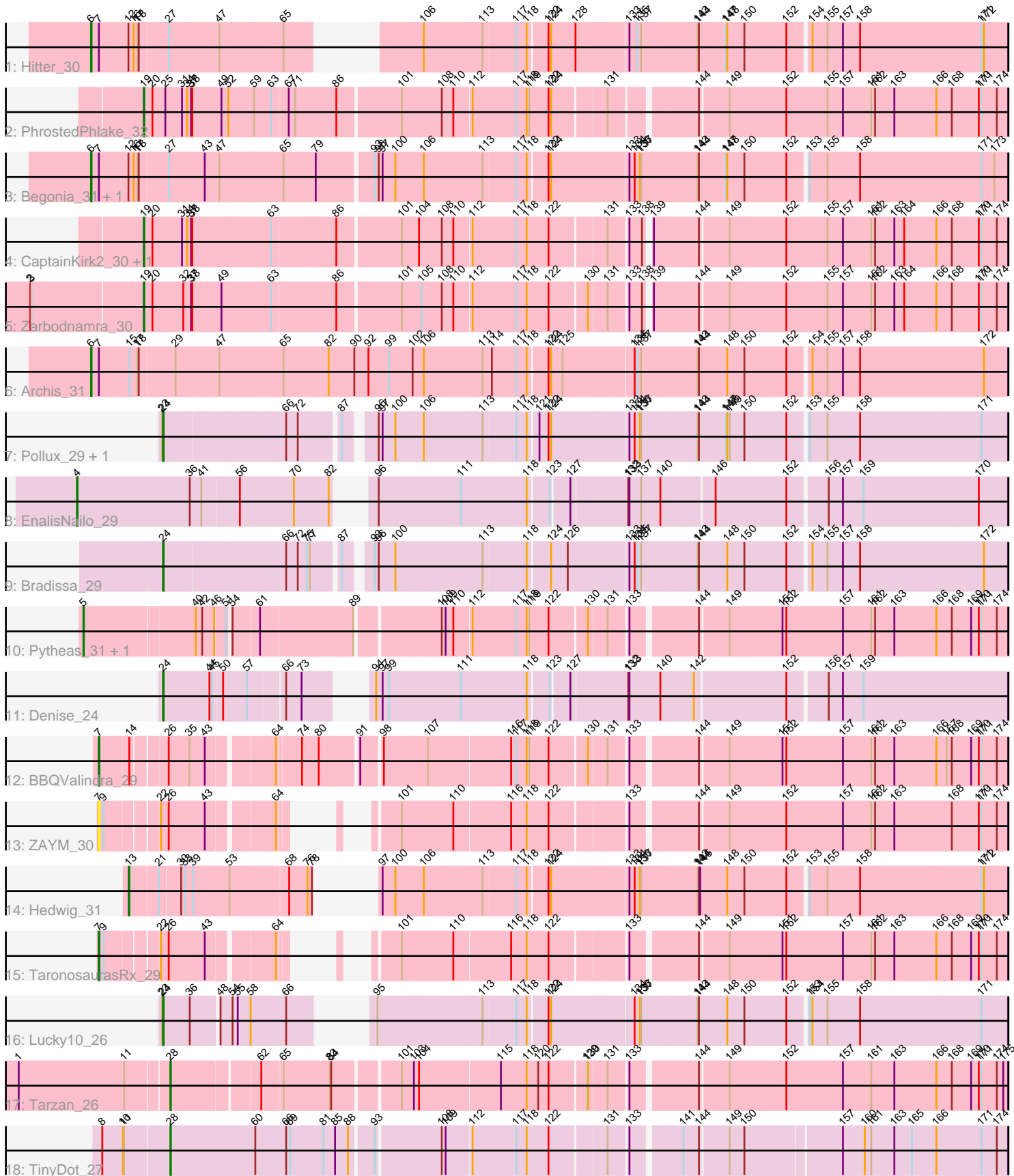


Pham 295082



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 295082 Report

This analysis was run 04/18/26 on database version 643.

Pham number 295082 has 22 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Hitter\_30
- Track 2 : PhrostedPhlake\_32
- Track 3 : Begonia\_31, Malachai\_31
- Track 4 : CaptainKirk2\_30, Delian\_31
- Track 5 : Zarbodnamra\_30
- Track 6 : Archis\_31
- Track 7 : Pollux\_29, Floral\_29
- Track 8 : EnalisNailo\_29
- Track 9 : Bradissa\_29
- Track 10 : Pytheas\_31, Jablanski\_31
- Track 11 : Denise\_24
- Track 12 : BBQValindra\_29
- Track 13 : ZAYM\_30
- Track 14 : Hedwig\_31
- Track 15 : TaronosaurusRx\_29
- Track 16 : Lucky10\_26
- Track 17 : Tarzan\_26
- Track 18 : TinyDot\_27

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

The start number called the most often in the published annotations is 24, it was called in 5 of the 21 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bradissa\_29, Denise\_24, Floral\_29, Lucky10\_26, Pollux\_29,

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

- 

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

- Archis\_31, BBQValindra\_29, Begonia\_31, CaptainKirk2\_30, Delian\_31, EnalisNailo\_29, Hedwig\_31, Hitter\_30, Jablanski\_31, Malachai\_31, PhrostedPhlake\_32, Pytheas\_31, TaronosaurusRx\_29, Tarzan\_26, TinyDot\_27,

ZAYM\_30, Zarbodnamra\_30,

### Summary by start number:

Start 4:

- Found in 1 of 22 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 1 of 21
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EnalisNailo\_29 (CY1),

Start 5:

- Found in 2 of 22 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 2 of 21
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jablanski\_31 (CY3), Pytheas\_31 (CY3),

Start 6:

- Found in 4 of 22 ( 18.2% ) of genes in pham
- Manual Annotations of this start: 4 of 21
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archis\_31 (CV), Begonia\_31 (CV), Hitter\_30 (CV), Malachai\_31 (CV),

Start 7:

- Found in 7 of 22 ( 31.8% ) of genes in pham
- Manual Annotations of this start: 2 of 21
- Called 42.9% of time when present
- Phage (with cluster) where this start called: BBQValindra\_29 (DB), TaronosaurusRx\_29 (DB), ZAYM\_30 (DB),

Start 13:

- Found in 1 of 22 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 1 of 21
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hedwig\_31 (DB),

Start 19:

- Found in 4 of 22 ( 18.2% ) of genes in pham
- Manual Annotations of this start: 4 of 21
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CaptainKirk2\_30 (CV), Delian\_31 (CV), PhrostedPhlake\_32 (CV), Zarbodnamra\_30 (CV),

Start 24:

- Found in 5 of 22 ( 22.7% ) of genes in pham
- Manual Annotations of this start: 5 of 21
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bradissa\_29 (CY1), Denise\_24 (CZ5), Floral\_29 (CY1), Lucky10\_26 (DH), Pollux\_29 (CY1),

Start 28:

- Found in 2 of 22 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 2 of 21

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tarzan\_26 (DY), TinyDot\_27 (singleton),

### **Summary by clusters:**

There are 8 clusters represented in this pham: CY3, singleton, DH, DB, CY1, CZ5, DY, CV,

Info for manual annotations of cluster CV:

- Start number 6 was manually annotated 4 times for cluster CV.
- Start number 19 was manually annotated 4 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 4 was manually annotated 1 time for cluster CY1.
- Start number 24 was manually annotated 3 times for cluster CY1.

Info for manual annotations of cluster CY3:

- Start number 5 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CZ5:

- Start number 24 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster DB:

- Start number 7 was manually annotated 2 times for cluster DB.
- Start number 13 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DH:

- Start number 24 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DY:

- Start number 28 was manually annotated 1 time for cluster DY.

### **Gene Information:**

Gene: Archis\_31 Start: 25439, Stop: 27490, Start Num: 6

Candidate Starts for Archis\_31:

(Start: 6 @25439 has 4 MA's), (Start: 7 @25457 has 2 MA's), (15, 25529), (17, 25547), (18, 25550), (29, 25631), (47, 25727), (65, 25871), (82, 25976), (90, 26036), (92, 26069), (99, 26117), (102, 26171), (106, 26195), (113, 26324), (114, 26342), (117, 26399), (118, 26423), (122, 26465), (124, 26471), (125, 26498), (134, 26657), (135, 26663), (137, 26672), (143, 26798), (144, 26801), (148, 26867), (150, 26906), (152, 27002), (154, 27044), (155, 27077), (157, 27113), (158, 27152), (172, 27437),

Gene: BBQValindra\_29 Start: 24300, Stop: 26213, Start Num: 7

Candidate Starts for BBQValindra\_29:

(Start: 7 @24300 has 2 MA's), (14, 24360), (26, 24432), (35, 24477), (43, 24513), (64, 24642), (74, 24693), (80, 24729), (91, 24813), (98, 24852), (107, 24951), (116, 25137), (117, 25149), (118, 25173), (119, 25179), (122, 25224), (130, 25302), (131, 25341), (133, 25383), (144, 25518), (149, 25578), (151, 25698), (152, 25707), (157, 25839), (161, 25902), (162, 25911), (163, 25956), (166, 26052), (167, 26073), (168, 26085), (169, 26127), (170, 26145), (171, 26151), (174, 26187),

Gene: Begonia\_31 Start: 25691, Stop: 27724, Start Num: 6

Candidate Starts for Begonia\_31:

(Start: 6 @25691 has 4 MA's), (Start: 7 @25709 has 2 MA's), (12, 25778), (16, 25790), (17, 25799), (18, 25802), (27, 25868), (43, 25949), (47, 25979), (65, 26123), (79, 26198), (93, 26321), (96, 26330), (97, 26339), (100, 26366), (106, 26429), (113, 26558), (117, 26633), (118, 26657), (122, 26699), (124, 26705), (133, 26879), (134, 26891), (136, 26903), (137, 26906), (143, 27032), (144, 27035), (147, 27098), (148, 27101), (150, 27140), (152, 27236), (153, 27272), (155, 27311), (158, 27386), (171, 27665), (173, 27695),

Gene: Bradissa\_29 Start: 24722, Stop: 26545, Start Num: 24

Candidate Starts for Bradissa\_29:

(Start: 24 @24722 has 5 MA's), (66, 24983), (72, 25010), (75, 25031), (77, 25037), (87, 25094), (93, 25142), (96, 25151), (100, 25187), (113, 25379), (118, 25478), (124, 25526), (126, 25565), (133, 25700), (134, 25712), (135, 25718), (137, 25727), (143, 25853), (144, 25856), (148, 25922), (150, 25961), (152, 26057), (154, 26099), (155, 26132), (157, 26168), (158, 26207), (172, 26492),

Gene: CaptainKirk2\_30 Start: 25252, Stop: 27144, Start Num: 19

Candidate Starts for CaptainKirk2\_30:

(Start: 19 @25252 has 4 MA's), (20, 25270), (31, 25339), (34, 25351), (37, 25360), (38, 25363), (63, 25540), (86, 25684), (101, 25825), (104, 25864), (108, 25912), (110, 25939), (112, 25978), (117, 26080), (118, 26104), (122, 26155), (131, 26272), (133, 26314), (138, 26341), (139, 26350), (144, 26449), (149, 26509), (152, 26638), (155, 26734), (157, 26770), (161, 26833), (162, 26842), (163, 26887), (164, 26908), (166, 26983), (168, 27016), (170, 27076), (171, 27082), (174, 27118),

Gene: Delian\_31 Start: 25250, Stop: 27142, Start Num: 19

Candidate Starts for Delian\_31:

(Start: 19 @25250 has 4 MA's), (20, 25268), (31, 25337), (34, 25349), (37, 25358), (38, 25361), (63, 25538), (86, 25682), (101, 25823), (104, 25862), (108, 25910), (110, 25937), (112, 25976), (117, 26078), (118, 26102), (122, 26153), (131, 26270), (133, 26312), (138, 26339), (139, 26348), (144, 26447), (149, 26507), (152, 26636), (155, 26732), (157, 26768), (161, 26831), (162, 26840), (163, 26885), (164, 26906), (166, 26981), (168, 27014), (170, 27074), (171, 27080), (174, 27116),

Gene: Denise\_24 Start: 21110, Stop: 22873, Start Num: 24

Candidate Starts for Denise\_24:

(Start: 24 @21110 has 5 MA's), (44, 21212), (45, 21218), (50, 21239), (57, 21290), (66, 21368), (73, 21398), (94, 21476), (97, 21488), (99, 21503), (111, 21671), (118, 21824), (123, 21866), (127, 21905), (132, 22034), (133, 22037), (140, 22109), (142, 22184), (152, 22388), (156, 22469), (157, 22502), (159, 22547),

Gene: EnalisNailo\_29 Start: 24724, Stop: 26721, Start Num: 4

Candidate Starts for EnalisNailo\_29:

(Start: 4 @24724 has 1 MA's), (36, 24985), (41, 25012), (56, 25096), (70, 25219), (82, 25297), (96, 25327), (111, 25519), (118, 25672), (123, 25714), (127, 25753), (132, 25882), (133, 25885), (137, 25912), (140, 25957), (146, 26074), (152, 26236), (156, 26317), (157, 26350), (159, 26395), (170, 26656),

Gene: Floral\_29 Start: 24575, Stop: 26398, Start Num: 24

Candidate Starts for Floral\_29:

(23, 24572), (Start: 24 @24575 has 5 MA's), (66, 24836), (72, 24863), (87, 24947), (96, 25004), (97, 25013), (100, 25040), (106, 25103), (113, 25232), (117, 25307), (118, 25331), (121, 25352), (122, 25373), (124, 25379), (133, 25553), (134, 25565), (136, 25577), (137, 25580), (143, 25706), (144, 25709), (147, 25772), (148, 25775), (149, 25781), (150, 25814), (152, 25910), (153, 25946), (155, 25985), (158, 26060), (171, 26339),

Gene: Hedwig\_31 Start: 25332, Stop: 27116, Start Num: 13

Candidate Starts for Hedwig\_31:

(Start: 13 @25332 has 1 MA's), (21, 25392), (30, 25437), (33, 25446), (39, 25464), (53, 25545), (68, 25674), (76, 25713), (78, 25722), (97, 25731), (100, 25758), (106, 25821), (113, 25950), (117, 26025), (118, 26049), (122, 26091), (124, 26097), (133, 26271), (134, 26283), (136, 26295), (137, 26298), (143, 26424), (144, 26427), (145, 26430), (148, 26493), (150, 26532), (152, 26628), (153, 26664), (155, 26703), (158, 26778), (171, 27057), (172, 27063),

Gene: Hitter\_30 Start: 25228, Stop: 27120, Start Num: 6

Candidate Starts for Hitter\_30:

(Start: 6 @25228 has 4 MA's), (Start: 7 @25246 has 2 MA's), (12, 25315), (16, 25327), (17, 25336), (18, 25339), (27, 25405), (47, 25516), (65, 25660), (106, 25825), (113, 25954), (117, 26029), (118, 26053), (122, 26095), (124, 26101), (128, 26158), (133, 26275), (135, 26293), (137, 26302), (143, 26428), (144, 26431), (147, 26494), (148, 26497), (150, 26536), (152, 26632), (154, 26674), (155, 26707), (157, 26743), (158, 26782), (171, 27061), (172, 27067),

Gene: Jablanski\_31 Start: 25723, Stop: 27699, Start Num: 5

Candidate Starts for Jablanski\_31:

(Start: 5 @25723 has 2 MA's), (40, 25969), (42, 25984), (46, 26011), (51, 26032), (54, 26038), (61, 26095), (89, 26296), (108, 26467), (109, 26476), (110, 26494), (112, 26533), (117, 26635), (118, 26659), (119, 26665), (122, 26710), (130, 26788), (131, 26827), (133, 26869), (144, 27004), (149, 27064), (151, 27184), (152, 27193), (157, 27325), (161, 27388), (162, 27397), (163, 27442), (166, 27538), (168, 27571), (169, 27613), (170, 27631), (171, 27637), (174, 27673),

Gene: Lucky10\_26 Start: 22139, Stop: 23872, Start Num: 24

Candidate Starts for Lucky10\_26:

(23, 22136), (Start: 24 @22139 has 5 MA's), (36, 22199), (48, 22256), (54, 22283), (55, 22295), (58, 22322), (66, 22397), (95, 22475), (113, 22709), (117, 22784), (118, 22808), (122, 22847), (124, 22853), (134, 23039), (136, 23051), (137, 23054), (143, 23180), (144, 23183), (148, 23249), (150, 23288), (152, 23384), (153, 23420), (154, 23426), (155, 23459), (158, 23534), (171, 23813),

Gene: Malachai\_31 Start: 25691, Stop: 27724, Start Num: 6

Candidate Starts for Malachai\_31:

(Start: 6 @25691 has 4 MA's), (Start: 7 @25709 has 2 MA's), (12, 25778), (16, 25790), (17, 25799), (18, 25802), (27, 25868), (43, 25949), (47, 25979), (65, 26123), (79, 26198), (93, 26321), (96, 26330), (97, 26339), (100, 26366), (106, 26429), (113, 26558), (117, 26633), (118, 26657), (122, 26699), (124, 26705), (133, 26879), (134, 26891), (136, 26903), (137, 26906), (143, 27032), (144, 27035), (147, 27098), (148, 27101), (150, 27140), (152, 27236), (153, 27272), (155, 27311), (158, 27386), (171, 27665), (173, 27695),

Gene: PhrostedPhlake\_32 Start: 25921, Stop: 27813, Start Num: 19

Candidate Starts for PhrostedPhlake\_32:

(Start: 19 @25921 has 4 MA's), (20, 25939), (25, 25969), (31, 26008), (34, 26020), (37, 26029), (38, 26032), (49, 26098), (52, 26113), (59, 26173), (63, 26209), (67, 26245), (71, 26260), (86, 26353), (101, 26494), (108, 26581), (110, 26608), (112, 26647), (117, 26749), (118, 26773), (119, 26779), (122, 26824), (124, 26830), (131, 26941), (144, 27118), (149, 27178), (152, 27307), (155, 27403), (157, 27439), (161, 27502), (162, 27511), (163, 27556), (166, 27652), (168, 27685), (170, 27745), (171, 27751), (174, 27787),

Gene: Pollux\_29 Start: 24575, Stop: 26398, Start Num: 24

Candidate Starts for Pollux\_29:

(23, 24572), (Start: 24 @24575 has 5 MA's), (66, 24836), (72, 24863), (87, 24947), (96, 25004), (97, 25013), (100, 25040), (106, 25103), (113, 25232), (117, 25307), (118, 25331), (121, 25352), (122,

25373), (124, 25379), (133, 25553), (134, 25565), (136, 25577), (137, 25580), (143, 25706), (144, 25709), (147, 25772), (148, 25775), (149, 25781), (150, 25814), (152, 25910), (153, 25946), (155, 25985), (158, 26060), (171, 26339),

Gene: Pytheas\_31 Start: 25722, Stop: 27698, Start Num: 5

Candidate Starts for Pytheas\_31:

(Start: 5 @25722 has 2 MA's), (40, 25968), (42, 25983), (46, 26010), (51, 26031), (54, 26037), (61, 26094), (89, 26295), (108, 26466), (109, 26475), (110, 26493), (112, 26532), (117, 26634), (118, 26658), (119, 26664), (122, 26709), (130, 26787), (131, 26826), (133, 26868), (144, 27003), (149, 27063), (151, 27183), (152, 27192), (157, 27324), (161, 27387), (162, 27396), (163, 27441), (166, 27537), (168, 27570), (169, 27612), (170, 27630), (171, 27636), (174, 27672),

Gene: TaronosaurusRx\_29 Start: 24667, Stop: 26418, Start Num: 7

Candidate Starts for TaronosaurusRx\_29:

(Start: 7 @24667 has 2 MA's), (9, 24676), (22, 24781), (26, 24799), (43, 24880), (64, 25009), (101, 25099), (110, 25213), (116, 25342), (118, 25378), (122, 25429), (133, 25588), (144, 25723), (149, 25783), (151, 25903), (152, 25912), (157, 26044), (161, 26107), (162, 26116), (163, 26161), (166, 26257), (168, 26290), (169, 26332), (170, 26350), (171, 26356), (174, 26392),

Gene: Tarzan\_26 Start: 21313, Stop: 23103, Start Num: 28

Candidate Starts for Tarzan\_26:

(1, 20977), (11, 21220), (Start: 28 @21313 has 2 MA's), (62, 21499), (65, 21538), (83, 21643), (84, 21646), (101, 21784), (103, 21811), (104, 21823), (115, 22003), (118, 22063), (120, 22090), (122, 22114), (129, 22189), (130, 22192), (131, 22231), (133, 22273), (144, 22408), (149, 22468), (152, 22597), (157, 22729), (161, 22792), (163, 22846), (166, 22942), (168, 22975), (169, 23017), (170, 23035), (171, 23041), (174, 23077), (175, 23092),

Gene: TinyDot\_27 Start: 21466, Stop: 23274, Start Num: 28

Candidate Starts for TinyDot\_27:

(8, 21319), (10, 21364), (11, 21367), (Start: 28 @21466 has 2 MA's), (60, 21661), (66, 21733), (69, 21742), (81, 21817), (85, 21844), (88, 21874), (93, 21922), (108, 22060), (109, 22069), (112, 22126), (117, 22228), (118, 22252), (122, 22303), (131, 22420), (133, 22462), (141, 22561), (144, 22597), (149, 22657), (150, 22690), (157, 22900), (160, 22948), (161, 22963), (163, 23017), (165, 23056), (166, 23113), (171, 23212), (174, 23248),

Gene: ZAYM\_30 Start: 25127, Stop: 26878, Start Num: 7

Candidate Starts for ZAYM\_30:

(Start: 7 @25127 has 2 MA's), (9, 25136), (22, 25241), (26, 25259), (43, 25340), (64, 25469), (101, 25559), (110, 25673), (116, 25802), (118, 25838), (122, 25889), (133, 26048), (144, 26183), (149, 26243), (152, 26372), (157, 26504), (161, 26567), (162, 26576), (163, 26621), (168, 26750), (170, 26810), (171, 26816), (174, 26852),

Gene: Zarbodnamra\_30 Start: 25272, Stop: 27164, Start Num: 19

Candidate Starts for Zarbodnamra\_30:

(2, 25014), (3, 25017), (Start: 19 @25272 has 4 MA's), (20, 25290), (32, 25362), (37, 25380), (38, 25383), (49, 25449), (63, 25560), (86, 25704), (101, 25845), (105, 25890), (108, 25932), (110, 25959), (112, 25998), (117, 26100), (118, 26124), (122, 26175), (130, 26253), (131, 26292), (133, 26334), (138, 26361), (139, 26370), (144, 26469), (149, 26529), (152, 26658), (155, 26754), (157, 26790), (161, 26853), (162, 26862), (163, 26907), (164, 26928), (166, 27003), (168, 27036), (170, 27096), (171, 27102), (174, 27138),