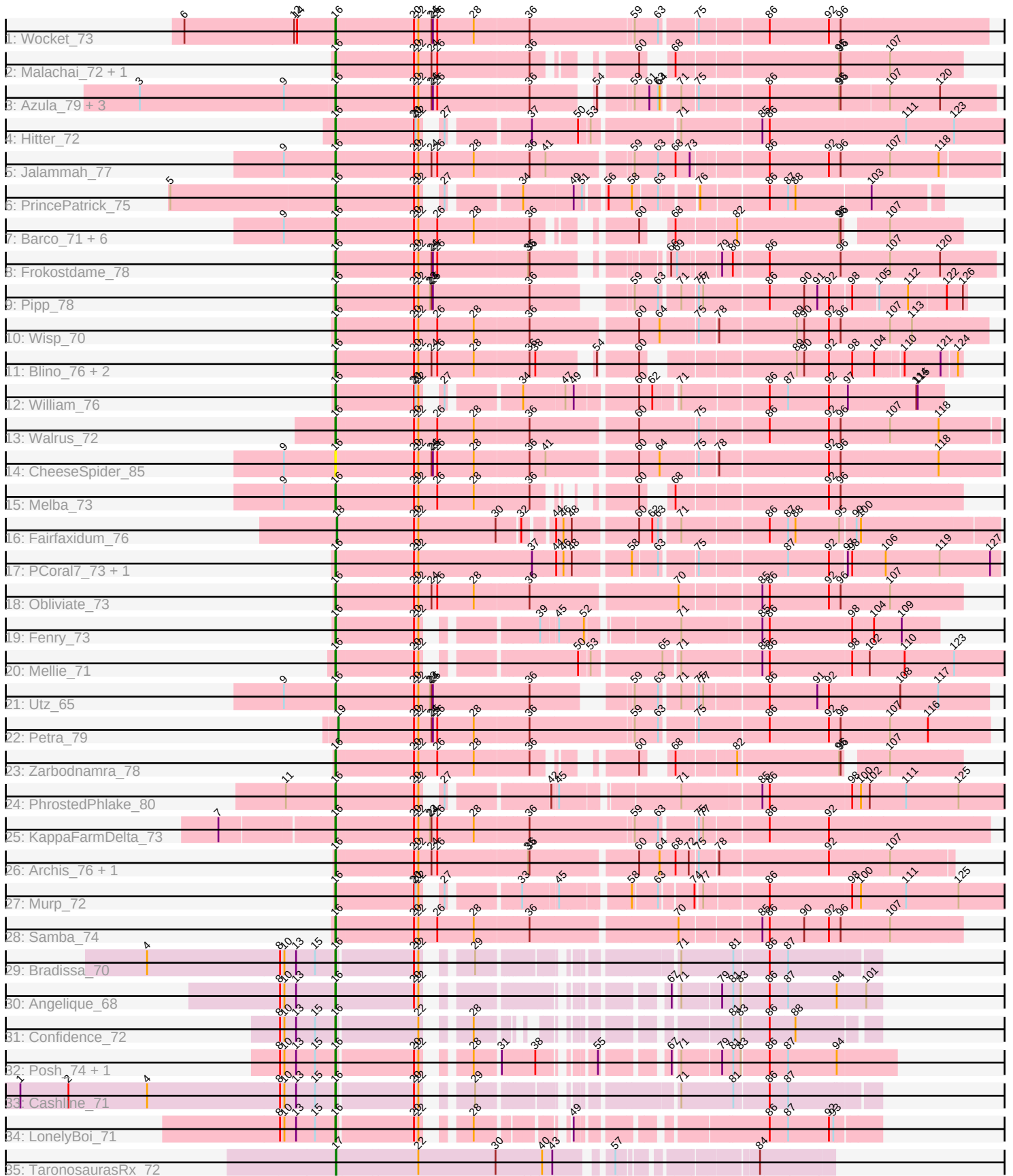


Pham 323349



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 323349 Report

This analysis was run 09/05/26 on database version 662.

Pham number 323349 has 50 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Wocket_73
- Track 2 : Malachai_72, Begonia_72
- Track 3 : Azula_79, MissRona_79, Blueberry_78, Gambino_81
- Track 4 : Hitter_72
- Track 5 : Jalammah_77
- Track 6 : PrincePatrick_75
- Track 7 : Barco_71, CaptainKirk2_74, MintFen_74, Guacamole_72, Zilla_71, Delian_77, JasperJr_72
- Track 8 : Frokostdame_78
- Track 9 : Pipp_78
- Track 10 : Wisp_70
- Track 11 : Blino_76, CarolAnn_75, Soilmate_78
- Track 12 : William_76
- Track 13 : Walrus_72
- Track 14 : CheeseSpider_85
- Track 15 : Melba_73
- Track 16 : Fairfaxidum_76
- Track 17 : PCoral7_73, Toast_73
- Track 18 : Obliviate_73
- Track 19 : Fenry_73
- Track 20 : Mellie_71
- Track 21 : Utz_65
- Track 22 : Petra_79
- Track 23 : Zarbodnamra_78
- Track 24 : PhrostedPhlake_80
- Track 25 : KappaFarmDelta_73
- Track 26 : Archis_76, ZiggyZoo_75
- Track 27 : Murp_72
- Track 28 : Samba_74
- Track 29 : Bradissa_70
- Track 30 : Angelique_68
- Track 31 : Confidence_72
- Track 32 : Posh_74, Wrigley_76
- Track 33 : Cashline_71
- Track 34 : LonelyBoi_71
- Track 35 : TaronosaurusRx_72

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

The start number called the most often in the published annotations is 16, it was called in 45 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angelique_68, Archis_76, Azula_79, Barco_71, Begonia_72, Blino_76, Blueberry_78, Bradissa_70, CaptainKirk2_74, CarolAnn_75, Cashline_71, CheeseSpider_85, Confidence_72, Delian_77, Fenry_73, Frokostdame_78, Gambino_81, Guacamole_72, Hitter_72, Jalammah_77, JasperJr_72, KappaFarmDelta_73, LonelyBoi_71, Malachai_72, Melba_73, Mellie_71, MintFen_74, MissRona_79, Murp_72, Oblivate_73, PCoral7_73, PhrostedPhlake_80, Pipp_78, Posh_74, PrincePatrick_75, Samba_74, Soilmate_78, Toast_73, Utz_65, Walrus_72, William_76, Wisp_70, Wocket_73, Wrigley_76, Zarbodnamra_78, ZiggyZoo_75, Zilla_71,

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

-

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

- Fairfaxidum_76, Petra_79, TaronosaurusRx_72,

Summary by start number:

Start 16:

- Found in 47 of 50 (94.0%) of genes in pham
- Manual Annotations of this start: 45 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angelique_68 (CY1), Archis_76 (CV), Azula_79 (CV), Barco_71 (CV), Begonia_72 (CV), Blino_76 (CV), Blueberry_78 (CV), Bradissa_70 (CY1), CaptainKirk2_74 (CV), CarolAnn_75 (CV), Cashline_71 (CY6), CheeseSpider_85 (CV), Confidence_72 (CY1), Delian_77 (CV), Fenry_73 (CV), Frokostdame_78 (CV), Gambino_81 (CV), Guacamole_72 (CV), Hitter_72 (CV), Jalammah_77 (CV), JasperJr_72 (CV), KappaFarmDelta_73 (CV), LonelyBoi_71 (CY7), Malachai_72 (CV), Melba_73 (CV), Mellie_71 (CV), MintFen_74 (CV), MissRona_79 (CV), Murp_72 (CV), Oblivate_73 (CV), PCoral7_73 (CV), PhrostedPhlake_80 (CV), Pipp_78 (CV), Posh_74 (CY4), PrincePatrick_75 (CV), Samba_74 (CV), Soilmate_78 (CV), Toast_73 (CV), Utz_65 (CV), Walrus_72 (CV), William_76 (CV), Wisp_70 (CV), Wocket_73 (CV), Wrigley_76 (CY4), Zarbodnamra_78 (CV), ZiggyZoo_75 (CV), Zilla_71 (CV),

Start 17:

- Found in 1 of 50 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TaronosaurusRx_72 (DB),

Start 18:

- Found in 1 of 50 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 48

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fairfaxidum_76 (CV),

Start 19:

- Found in 1 of 50 (2.0%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Petra_79 (CV),

Summary by clusters:

There are 6 clusters represented in this pham: CY1, CY7, CY6, CY4, DB, CV,

Info for manual annotations of cluster CV:

- Start number 16 was manually annotated 38 times for cluster CV.
- Start number 18 was manually annotated 1 time for cluster CV.
- Start number 19 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 16 was manually annotated 3 times for cluster CY1.

Info for manual annotations of cluster CY4:

- Start number 16 was manually annotated 2 times for cluster CY4.

Info for manual annotations of cluster CY6:

- Start number 16 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:

- Start number 16 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster DB:

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

Gene Information:

Gene: Angelique_68 Start: 47187, Stop: 48083, Start Num: 16

Candidate Starts for Angelique_68:

(8, 47073), (10, 47082), (13, 47106), (Start: 16 @47187 has 45 MA's), (20, 47346), (22, 47355), (67, 47694), (71, 47703), (79, 47775), (81, 47796), (83, 47811), (86, 47862), (87, 47898), (94, 47997), (101, 48054),

Gene: Archis_76 Start: 44694, Stop: 45863, Start Num: 16

Candidate Starts for Archis_76:

(Start: 16 @44694 has 45 MA's), (20, 44847), (22, 44856), (24, 44883), (26, 44895), (35, 45069), (36, 45072), (60, 45273), (64, 45315), (68, 45345), (72, 45369), (75, 45381), (78, 45414), (92, 45624), (107, 45741),

Gene: Azula_79 Start: 48841, Stop: 50049, Start Num: 16

Candidate Starts for Azula_79:

(3, 48445), (9, 48742), (Start: 16 @48841 has 45 MA's), (20, 48994), (22, 49003), (24, 49030), (25, 49033), (26, 49042), (36, 49219), (54, 49321), (59, 49372), (61, 49402), (63, 49420), (64, 49423), (71,

49453), (75, 49480), (86, 49606), (95, 49747), (96, 49750), (107, 49840), (120, 49942),

Gene: Barco_71 Start: 44619, Stop: 45674, Start Num: 16

Candidate Starts for Barco_71:

(9, 44517), (Start: 16 @44619 has 45 MA's), (20, 44772), (22, 44781), (26, 44820), (28, 44895), (36, 44997), (60, 45135), (68, 45162), (82, 45264), (95, 45462), (96, 45465), (107, 45528),

Gene: Begonia_72 Start: 47392, Stop: 48474, Start Num: 16

Candidate Starts for Begonia_72:

(Start: 16 @47392 has 45 MA's), (20, 47545), (22, 47554), (24, 47581), (26, 47593), (36, 47770), (60, 47908), (68, 47935), (95, 48235), (96, 48238), (107, 48328),

Gene: Blino_76 Start: 50184, Stop: 51278, Start Num: 16

Candidate Starts for Blino_76:

(Start: 16 @50184 has 45 MA's), (20, 50337), (22, 50346), (24, 50373), (26, 50385), (28, 50460), (36, 50562), (38, 50574), (54, 50664), (60, 50730), (89, 50970), (90, 50985), (92, 51036), (98, 51078), (104, 51120), (110, 51171), (121, 51240), (124, 51270),

Gene: Blueberry_78 Start: 48841, Stop: 50049, Start Num: 16

Candidate Starts for Blueberry_78:

(3, 48445), (9, 48742), (Start: 16 @48841 has 45 MA's), (20, 48994), (22, 49003), (24, 49030), (25, 49033), (26, 49042), (36, 49219), (54, 49321), (59, 49372), (61, 49402), (63, 49420), (64, 49423), (71, 49453), (75, 49480), (86, 49606), (95, 49747), (96, 49750), (107, 49840), (120, 49942),

Gene: Bradissa_70 Start: 48716, Stop: 49630, Start Num: 16

Candidate Starts for Bradissa_70:

(4, 48329), (8, 48602), (10, 48611), (13, 48635), (15, 48674), (Start: 16 @48716 has 45 MA's), (20, 48866), (22, 48875), (29, 48935), (71, 49250), (81, 49352), (86, 49418), (87, 49454),

Gene: CaptainKirk2_74 Start: 44176, Stop: 45231, Start Num: 16

Candidate Starts for CaptainKirk2_74:

(9, 44074), (Start: 16 @44176 has 45 MA's), (20, 44329), (22, 44338), (26, 44377), (28, 44452), (36, 44554), (60, 44692), (68, 44719), (82, 44821), (95, 45019), (96, 45022), (107, 45085),

Gene: CarolAnn_75 Start: 50183, Stop: 51277, Start Num: 16

Candidate Starts for CarolAnn_75:

(Start: 16 @50183 has 45 MA's), (20, 50336), (22, 50345), (24, 50372), (26, 50384), (28, 50459), (36, 50561), (38, 50573), (54, 50663), (60, 50729), (89, 50969), (90, 50984), (92, 51035), (98, 51077), (104, 51119), (110, 51170), (121, 51239), (124, 51269),

Gene: Cashline_71 Start: 49411, Stop: 50325, Start Num: 16

Candidate Starts for Cashline_71:

(1, 48763), (2, 48862), (4, 49024), (8, 49297), (10, 49306), (13, 49330), (15, 49369), (Start: 16 @49411 has 45 MA's), (20, 49561), (22, 49570), (29, 49630), (71, 49945), (81, 50047), (86, 50113), (87, 50149),

Gene: CheeseSpider_85 Start: 48624, Stop: 49895, Start Num: 16

Candidate Starts for CheeseSpider_85:

(9, 48522), (Start: 16 @48624 has 45 MA's), (20, 48777), (22, 48786), (24, 48813), (25, 48816), (26, 48825), (28, 48900), (36, 49002), (41, 49035), (60, 49206), (64, 49248), (75, 49314), (78, 49347), (92, 49557), (96, 49581), (118, 49773),

Gene: Confidence_72 Start: 46779, Stop: 47603, Start Num: 16

Candidate Starts for Confidence_72:

(8, 46665), (10, 46674), (13, 46698), (15, 46737), (Start: 16 @46779 has 45 MA's), (22, 46938), (28, 46995), (81, 47334), (83, 47349), (86, 47400), (88, 47451),

Gene: Delian_77 Start: 44174, Stop: 45229, Start Num: 16

Candidate Starts for Delian_77:

(9, 44072), (Start: 16 @44174 has 45 MA's), (20, 44327), (22, 44336), (26, 44375), (28, 44450), (36, 44552), (60, 44690), (68, 44717), (82, 44819), (95, 45017), (96, 45020), (107, 45083),

Gene: Fairfaxidum_76 Start: 46475, Stop: 47704, Start Num: 18

Candidate Starts for Fairfaxidum_76:

(Start: 18 @46475 has 1 MA's), (20, 46625), (22, 46634), (30, 46793), (32, 46835), (44, 46883), (46, 46898), (48, 46913), (60, 47033), (62, 47060), (63, 47072), (71, 47105), (86, 47264), (87, 47300), (88, 47315), (95, 47405), (99, 47435), (100, 47444),

Gene: Fenry_73 Start: 46229, Stop: 47299, Start Num: 16

Candidate Starts for Fenry_73:

(Start: 16 @46229 has 45 MA's), (20, 46385), (22, 46394), (39, 46568), (45, 46598), (52, 46646), (71, 46805), (85, 46952), (86, 46967), (98, 47129), (104, 47171), (109, 47225),

Gene: Frokostdame_78 Start: 48333, Stop: 49514, Start Num: 16

Candidate Starts for Frokostdame_78:

(Start: 16 @48333 has 45 MA's), (20, 48486), (22, 48495), (24, 48522), (25, 48525), (26, 48534), (35, 48708), (36, 48711), (66, 48906), (69, 48915), (79, 48987), (80, 49008), (86, 49074), (96, 49218), (107, 49308), (120, 49407),

Gene: Gambino_81 Start: 48841, Stop: 50049, Start Num: 16

Candidate Starts for Gambino_81:

(3, 48445), (9, 48742), (Start: 16 @48841 has 45 MA's), (20, 48994), (22, 49003), (24, 49030), (25, 49033), (26, 49042), (36, 49219), (54, 49321), (59, 49372), (61, 49402), (63, 49420), (64, 49423), (71, 49453), (75, 49480), (86, 49606), (95, 49747), (96, 49750), (107, 49840), (120, 49942),

Gene: Guacamole_72 Start: 45594, Stop: 46649, Start Num: 16

Candidate Starts for Guacamole_72:

(9, 45492), (Start: 16 @45594 has 45 MA's), (20, 45747), (22, 45756), (26, 45795), (28, 45870), (36, 45972), (60, 46110), (68, 46137), (82, 46239), (95, 46437), (96, 46440), (107, 46503),

Gene: Hitter_72 Start: 43685, Stop: 44908, Start Num: 16

Candidate Starts for Hitter_72:

(Start: 16 @43685 has 45 MA's), (20, 43841), (21, 43844), (22, 43850), (27, 43868), (37, 44009), (50, 44096), (53, 44117), (71, 44276), (85, 44420), (86, 44435), (111, 44702), (123, 44801),

Gene: Jalammah_77 Start: 47558, Stop: 48814, Start Num: 16

Candidate Starts for Jalammah_77:

(9, 47456), (Start: 16 @47558 has 45 MA's), (20, 47711), (22, 47720), (24, 47747), (26, 47759), (28, 47834), (36, 47936), (41, 47969), (59, 48122), (63, 48170), (68, 48203), (73, 48230), (86, 48362), (92, 48482), (96, 48506), (107, 48599), (118, 48698),

Gene: JasperJr_72 Start: 45594, Stop: 46649, Start Num: 16

Candidate Starts for JasperJr_72:

(9, 45492), (Start: 16 @45594 has 45 MA's), (20, 45747), (22, 45756), (26, 45795), (28, 45870), (36, 45972), (60, 46110), (68, 46137), (82, 46239), (95, 46437), (96, 46440), (107, 46503),

Gene: KappaFarmDelta_73 Start: 45008, Stop: 46261, Start Num: 16

Candidate Starts for KappaFarmDelta_73:

(7, 44789), (Start: 16 @45008 has 45 MA's), (20, 45161), (22, 45170), (23, 45194), (24, 45197), (26, 45209), (28, 45284), (36, 45386), (59, 45593), (63, 45641), (75, 45701), (77, 45710), (86, 45827), (92, 45947),

Gene: LonelyBoi_71 Start: 49878, Stop: 50750, Start Num: 16

Candidate Starts for LonelyBoi_71:

(8, 49764), (10, 49773), (13, 49797), (15, 49836), (Start: 16 @49878 has 45 MA's), (20, 50028), (22, 50037), (28, 50094), (49, 50223), (86, 50535), (87, 50571), (92, 50655), (93, 50664),

Gene: Malachai_72 Start: 47392, Stop: 48474, Start Num: 16

Candidate Starts for Malachai_72:

(Start: 16 @47392 has 45 MA's), (20, 47545), (22, 47554), (24, 47581), (26, 47593), (36, 47770), (60, 47908), (68, 47935), (95, 48235), (96, 48238), (107, 48328),

Gene: Melba_73 Start: 44285, Stop: 45343, Start Num: 16

Candidate Starts for Melba_73:

(9, 44183), (Start: 16 @44285 has 45 MA's), (20, 44438), (22, 44447), (26, 44486), (28, 44561), (36, 44663), (60, 44774), (68, 44801), (92, 45080), (96, 45104),

Gene: Mellie_71 Start: 44379, Stop: 45626, Start Num: 16

Candidate Starts for Mellie_71:

(Start: 16 @44379 has 45 MA's), (20, 44535), (22, 44544), (50, 44793), (53, 44814), (65, 44943), (71, 44973), (85, 45117), (86, 45132), (98, 45294), (102, 45327), (110, 45396), (123, 45495),

Gene: MintFen_74 Start: 44790, Stop: 45845, Start Num: 16

Candidate Starts for MintFen_74:

(9, 44688), (Start: 16 @44790 has 45 MA's), (20, 44943), (22, 44952), (26, 44991), (28, 45066), (36, 45168), (60, 45306), (68, 45333), (82, 45435), (95, 45633), (96, 45636), (107, 45699),

Gene: MissRona_79 Start: 48842, Stop: 50050, Start Num: 16

Candidate Starts for MissRona_79:

(3, 48446), (9, 48743), (Start: 16 @48842 has 45 MA's), (20, 48995), (22, 49004), (24, 49031), (25, 49034), (26, 49043), (36, 49220), (54, 49322), (59, 49373), (61, 49403), (63, 49421), (64, 49424), (71, 49454), (75, 49481), (86, 49607), (95, 49748), (96, 49751), (107, 49841), (120, 49943),

Gene: Murp_72 Start: 47529, Stop: 48725, Start Num: 16

Candidate Starts for Murp_72:

(Start: 16 @47529 has 45 MA's), (20, 47685), (21, 47688), (22, 47694), (27, 47712), (33, 47835), (45, 47898), (58, 48018), (63, 48066), (74, 48126), (77, 48135), (86, 48252), (98, 48414), (100, 48432), (111, 48516), (125, 48624),

Gene: Obliviate_73 Start: 44695, Stop: 45894, Start Num: 16

Candidate Starts for Obliviate_73:

(Start: 16 @44695 has 45 MA's), (20, 44848), (22, 44857), (24, 44884), (26, 44896), (28, 44971), (36, 45073), (70, 45352), (85, 45499), (86, 45514), (92, 45634), (96, 45658), (107, 45748),

Gene: PCoral7_73 Start: 45263, Stop: 46528, Start Num: 16

Candidate Starts for PCoral7_73:

(Start: 16 @45263 has 45 MA's), (20, 45416), (22, 45425), (37, 45656), (44, 45704), (46, 45719), (48, 45734), (58, 45839), (63, 45887), (75, 45947), (87, 46106), (92, 46190), (97, 46223), (98, 46232), (106, 46298), (119, 46406), (127, 46508),

Gene: Petra_79 Start: 46902, Stop: 48161, Start Num: 19

Candidate Starts for Petra_79:

(Start: 19 @46902 has 1 MA's), (20, 47049), (22, 47058), (24, 47085), (25, 47088), (26, 47097), (28, 47172), (36, 47274), (59, 47481), (63, 47529), (75, 47589), (86, 47724), (92, 47844), (96, 47868), (107, 47961), (116, 48039),

Gene: PhrostedPhlake_80 Start: 47100, Stop: 48311, Start Num: 16

Candidate Starts for PhrostedPhlake_80:

(11, 46998), (Start: 16 @47100 has 45 MA's), (20, 47256), (22, 47265), (27, 47283), (42, 47457), (45, 47469), (71, 47676), (85, 47823), (86, 47838), (98, 48000), (100, 48018), (102, 48033), (111, 48102), (125, 48210),

Gene: Pipp_78 Start: 46743, Stop: 47876, Start Num: 16

Candidate Starts for Pipp_78:

(Start: 16 @46743 has 45 MA's), (20, 46896), (22, 46905), (23, 46929), (24, 46932), (25, 46935), (36, 47124), (59, 47271), (63, 47319), (71, 47352), (75, 47379), (77, 47388), (86, 47514), (90, 47583), (91, 47610), (92, 47634), (98, 47676), (105, 47718), (112, 47769), (122, 47838), (126, 47868),

Gene: Posh_74 Start: 49586, Stop: 50506, Start Num: 16

Candidate Starts for Posh_74:

(8, 49472), (10, 49481), (13, 49505), (15, 49544), (Start: 16 @49586 has 45 MA's), (20, 49736), (22, 49745), (28, 49802), (31, 49847), (38, 49907), (55, 49982), (67, 50084), (71, 50093), (79, 50165), (81, 50186), (83, 50201), (86, 50252), (87, 50288), (94, 50387),

Gene: PrincePatrick_75 Start: 44807, Stop: 45862, Start Num: 16

Candidate Starts for PrincePatrick_75:

(5, 44471), (Start: 16 @44807 has 45 MA's), (20, 44963), (22, 44972), (27, 44990), (34, 45113), (49, 45209), (51, 45224), (56, 45257), (58, 45302), (63, 45350), (76, 45410), (86, 45533), (87, 45569), (88, 45584), (103, 45728),

Gene: Samba_74 Start: 47557, Stop: 48759, Start Num: 16

Candidate Starts for Samba_74:

(Start: 16 @47557 has 45 MA's), (20, 47710), (22, 47719), (26, 47758), (28, 47833), (36, 47935), (70, 48214), (85, 48361), (86, 48376), (90, 48445), (92, 48496), (96, 48520), (107, 48613),

Gene: Soilmate_78 Start: 50183, Stop: 51277, Start Num: 16

Candidate Starts for Soilmate_78:

(Start: 16 @50183 has 45 MA's), (20, 50336), (22, 50345), (24, 50372), (26, 50384), (28, 50459), (36, 50561), (38, 50573), (54, 50663), (60, 50729), (89, 50969), (90, 50984), (92, 51035), (98, 51077), (104, 51119), (110, 51170), (121, 51239), (124, 51269),

Gene: TaronosaurusRx_72 Start: 44917, Stop: 45819, Start Num: 17

Candidate Starts for TaronosaurusRx_72:

(Start: 17 @44917 has 1 MA's), (22, 45082), (30, 45241), (40, 45334), (43, 45355), (57, 45445), (84, 45673),

Gene: Toast_73 Start: 45263, Stop: 46528, Start Num: 16

Candidate Starts for Toast_73:

(Start: 16 @45263 has 45 MA's), (20, 45416), (22, 45425), (37, 45656), (44, 45704), (46, 45719), (48, 45734), (58, 45839), (63, 45887), (75, 45947), (87, 46106), (92, 46190), (97, 46223), (98, 46232), (106, 46298), (119, 46406), (127, 46508),

Gene: Utz_65 Start: 45168, Stop: 46367, Start Num: 16

Candidate Starts for Utz_65:

(9, 45066), (Start: 16 @45168 has 45 MA's), (20, 45321), (22, 45330), (23, 45354), (24, 45357), (25, 45360), (36, 45549), (59, 45699), (63, 45747), (71, 45780), (75, 45807), (77, 45816), (86, 45933), (91, 46029), (92, 46053), (108, 46191), (117, 46269),

Gene: Walrus_72 Start: 45757, Stop: 47022, Start Num: 16

Candidate Starts for Walrus_72:

(Start: 16 @45757 has 45 MA's), (20, 45910), (22, 45919), (26, 45958), (28, 46033), (36, 46135), (60, 46339), (75, 46447), (86, 46573), (92, 46693), (96, 46717), (107, 46810), (118, 46909),

Gene: William_76 Start: 46736, Stop: 47827, Start Num: 16

Candidate Starts for William_76:

(Start: 16 @46736 has 45 MA's), (20, 46892), (21, 46895), (22, 46901), (27, 46919), (34, 47042), (47, 47123), (49, 47138), (60, 47252), (62, 47279), (71, 47324), (86, 47483), (87, 47519), (92, 47603), (97, 47636), (114, 47771), (115, 47774),

Gene: Wisp_70 Start: 45241, Stop: 46479, Start Num: 16

Candidate Starts for Wisp_70:

(Start: 16 @45241 has 45 MA's), (20, 45394), (22, 45403), (26, 45442), (28, 45517), (36, 45619), (60, 45820), (64, 45862), (75, 45928), (78, 45961), (89, 46105), (90, 46120), (92, 46171), (96, 46195), (107, 46285), (113, 46330),

Gene: Wocket_73 Start: 45651, Stop: 46904, Start Num: 16

Candidate Starts for Wocket_73:

(6, 45345), (12, 45570), (14, 45576), (Start: 16 @45651 has 45 MA's), (20, 45804), (22, 45813), (24, 45840), (25, 45843), (26, 45852), (28, 45927), (36, 46029), (59, 46236), (63, 46284), (75, 46344), (86, 46473), (92, 46593), (96, 46617),

Gene: Wrigley_76 Start: 49169, Stop: 50089, Start Num: 16

Candidate Starts for Wrigley_76:

(8, 49055), (10, 49064), (13, 49088), (15, 49127), (Start: 16 @49169 has 45 MA's), (20, 49319), (22, 49328), (28, 49385), (31, 49430), (38, 49490), (55, 49565), (67, 49667), (71, 49676), (79, 49748), (81, 49769), (83, 49784), (86, 49835), (87, 49871), (94, 49970),

Gene: Zarbodnamra_78 Start: 45786, Stop: 46841, Start Num: 16

Candidate Starts for Zarbodnamra_78:

(Start: 16 @45786 has 45 MA's), (20, 45939), (22, 45948), (26, 45987), (28, 46062), (36, 46164), (60, 46302), (68, 46329), (82, 46431), (95, 46629), (96, 46632), (107, 46695),

Gene: ZiggyZoo_75 Start: 47158, Stop: 48327, Start Num: 16

Candidate Starts for ZiggyZoo_75:

(Start: 16 @47158 has 45 MA's), (20, 47311), (22, 47320), (24, 47347), (26, 47359), (35, 47533), (36, 47536), (60, 47737), (64, 47779), (68, 47809), (72, 47833), (75, 47845), (78, 47878), (92, 48088), (107, 48205),

Gene: Zilla_71 Start: 44636, Stop: 45691, Start Num: 16

Candidate Starts for Zilla_71:

(9, 44534), (Start: 16 @44636 has 45 MA's), (20, 44789), (22, 44798), (26, 44837), (28, 44912), (36, 45014), (60, 45152), (68, 45179), (82, 45281), (95, 45479), (96, 45482), (107, 45545),