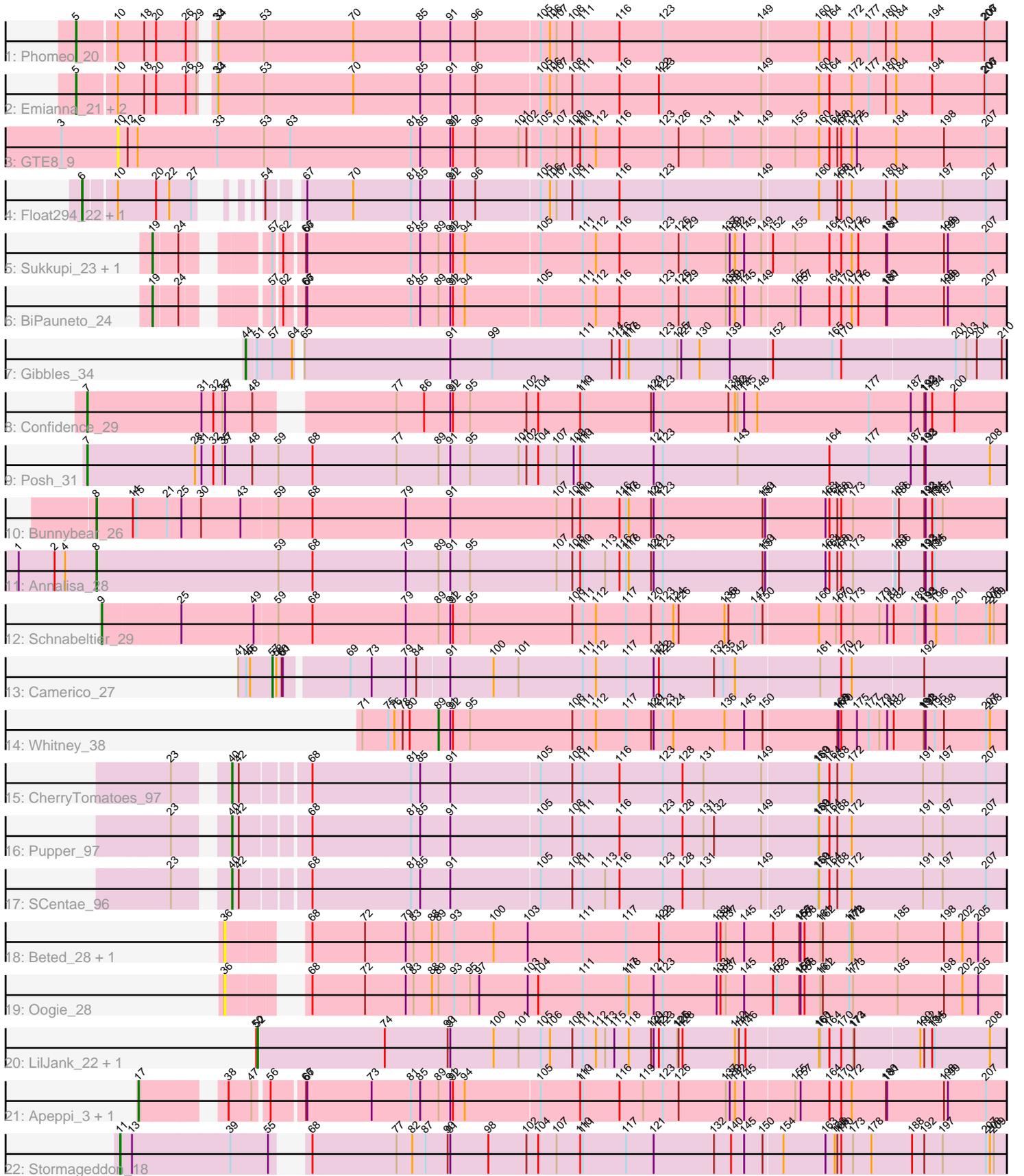# Pham 282381

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 282381 Report

This analysis was run 02/23/26 on database version 636.

Pham number 282381 has 29 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Phomeo_20
• Track 2 : Emianna_21, Kurt_21, KidneyBean_21
• Track 3 : GTE8_9
• Track 4 : Float294_22, Skysand_22
• Track 5 : Sukkupi_23, Yndexa_23
• Track 6 : BiPauneto_24
• Track 7 : Gibbles_34
• Track 8 : Confidence_29
• Track 9 : Posh_31
• Track 10 : Bunnybear_26
• Track 11 : Annalisa_28
• Track 12 : Schnabeltier_29
• Track 13 : Camerico_27
• Track 14 : Whitney_38
• Track 15 : CherryTomatoes_97
• Track 16 : Pupper_97
• Track 17 : SCentae_96
• Track 18 : Beted_28, Lenoshki_28
• Track 19 : Oogie_28
• Track 20 : LilJank_22, Trax_22
• Track 21 : Apeppi_3, LuckyLeo_3
• Track 22 : Stormageddon_18

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

The start number called the most often in the published annotations is 5, it was called in 4 of the 24 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Emianna_21, KidneyBean_21, Kurt_21, Phomeo_20,

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

Genes that do not have the "Most Annotated" start:
• Annalisa_28, Apeppi_3, Beted_28, BiPauneto_24, Bunnybear_26, Camerico_27, CherryTomatoes_97, Confidence_29, Float294_22, GTE8_9, Gibbles_34, Lenoshki_28, LilJank_22, LuckyLeo_3, Oogie_28, Posh_31, Pupper_97, SCentae_96, Schnabeltier_29, Skysand_22, Stormageddon_18, Sukkupi_23, Trax_22, Whitney_38, Yndexa_23,

Summary by start number:

Start 5:
• Found in 4 of 29 (13.8%) of genes in pham
• Manual Annotations of this start: 4 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Emianna_21 (CR2), KidneyBean_21 (CR2), Kurt_21 (CR2), Phomeo_20 (CR2),

Start 6:
• Found in 2 of 29 (6.9%) of genes in pham
• Manual Annotations of this start: 2 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Float294_22 (CR3), Skysand_22 (CR3),

Start 7:
• Found in 2 of 29 (6.9%) of genes in pham
• Manual Annotations of this start: 2 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Confidence_29 (CY1), Posh_31 (CY4),

Start 8:
• Found in 2 of 29 (6.9%) of genes in pham
• Manual Annotations of this start: 2 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Annalisa_28 (CZ4), Bunnybear_26 (CZ),

Start 9:
• Found in 1 of 29 (3.4%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Schnabeltier_29 (DB),

Start 10:
• Found in 7 of 29 (24.1%) of genes in pham
• No Manual Annotations of this start.
• Called 14.3% of time when present
• Phage (with cluster) where this start called: GTE8_9 (CR2),

Start 11:
• Found in 1 of 29 (3.4%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Stormageddon_18 (DX),

Start 17:

- Found in 2 of 29 (6.9%) of genes in pham
- Manual Annotations of this start: 2 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apeppi_3 (DV), LuckyLeo_3 (DV),

Start 19:
- Found in 3 of 29 (10.3%) of genes in pham
- Manual Annotations of this start: 3 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BiPauneto_24 (CR4), Sukkupi_23 (CR4), Yndexa_23 (CR4),

Start 36:
- Found in 3 of 29 (10.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beted_28 (DQ), Lenoshki_28 (DQ), Oogie_28 (DQ),

Start 40:
- Found in 3 of 29 (10.3%) of genes in pham
- Manual Annotations of this start: 3 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes_97 (DO), Pupper_97 (DO), SCentae_96 (DO),

Start 44:
- Found in 1 of 29 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gibbles_34 (CX),

Start 52:
- Found in 2 of 29 (6.9%) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilJank_22 (DU2), Trax_22 (DU2),

Start 57:
- Found in 5 of 29 (17.2%) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Camerico_27 (DF4),

Start 89:
- Found in 12 of 29 (41.4%) of genes in pham
- Manual Annotations of this start: 1 of 24
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Whitney_38 (DN1),

Summary by clusters:

There are 16 clusters represented in this pham: CR2, DO, CY1, CR4, CY4, DF4, CR3, DB, CZ4, CZ, CX, DN1, DX, DV, DU2, DQ,

Info for manual annotations of cluster CR2:
•Start number 5 was manually annotated 4 times for cluster CR2.

Info for manual annotations of cluster CR3:
•Start number 6 was manually annotated 2 times for cluster CR3.

Info for manual annotations of cluster CR4:
•Start number 19 was manually annotated 3 times for cluster CR4.

Info for manual annotations of cluster CX:
•Start number 44 was manually annotated 1 time for cluster CX.

Info for manual annotations of cluster CY1:
•Start number 7 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY4:
•Start number 7 was manually annotated 1 time for cluster CY4.

Info for manual annotations of cluster CZ:
•Start number 8 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ4:
•Start number 8 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster DB:
•Start number 9 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DF4:
•Start number 57 was manually annotated 1 time for cluster DF4.

Info for manual annotations of cluster DN1:
•Start number 89 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DO:
•Start number 40 was manually annotated 3 times for cluster DO.

Info for manual annotations of cluster DU2:
•Start number 52 was manually annotated 1 time for cluster DU2.

Info for manual annotations of cluster DV:
•Start number 17 was manually annotated 2 times for cluster DV.

Info for manual annotations of cluster DX:
•Start number 11 was manually annotated 1 time for cluster DX.

Gene Information:

Gene: Annalisa_28 Start: 23307, Stop: 25346, Start Num: 8
Candidate Starts for Annalisa_28:
(1, 23130), (2, 23211), (4, 23235), (Start: 8 @23307 has 2 MA's), (59, 23715), (68, 23790), (79, 24003),
(Start: 89 @24075 has 1 MA's), (91, 24102), (95, 24147), (107, 24345), (108, 24378), (110, 24396),
(111, 24402), (113, 24453), (116, 24486), (117, 24501), (118, 24507), (120, 24558), (121, 24564),
(123, 24585), (150, 24807), (151, 24813), (163, 24945), (164, 24954), (168, 24972), (170, 24981),
(173, 25008), (183, 25098), (186, 25107), (192, 25161), (193, 25164), (194, 25179), (195, 25185),

Gene: Apeppi_3 Start: 3182, Stop: 5059, Start Num: 17
Candidate Starts for Apeppi_3:
(Start: 17 @3182 has 2 MA's), (38, 3338), (47, 3389), (56, 3419), (66, 3488), (67, 3491), (73, 3638),
(81, 3725), (85, 3746), (Start: 89 @3788 has 1 MA's), (91, 3815), (92, 3821), (94, 3848), (105, 4016),
(110, 4103), (111, 4109), (116, 4193), (119, 4247), (123, 4292), (126, 4328), (137, 4436), (139, 4445),
(142, 4457), (145, 4478), (155, 4589), (157, 4601), (164, 4667), (170, 4694), (172, 4718), (180, 4796),
(181, 4799), (198, 4922), (199, 4931), (207, 5015),

Gene: Beted_28 Start: 17323, Stop: 18984, Start Num: 36
Candidate Starts for Beted_28:
(36, 17323), (68, 17437), (72, 17557), (79, 17650), (83, 17668), (88, 17704), (Start: 89 @17719 has 1
MA's), (93, 17755), (100, 17845), (103, 17923), (111, 18046), (117, 18145), (122, 18220), (123,
18229), (133, 18349), (134, 18358), (137, 18370), (145, 18412), (152, 18472), (156, 18532), (157,
18535), (158, 18544), (161, 18580), (162, 18586), (171, 18646), (172, 18652), (173, 18655), (185,
18754), (198, 18856), (202, 18898), (205, 18934),

Gene: BiPauneto_24 Start: 9593, Stop: 11410, Start Num: 19
Candidate Starts for BiPauneto_24:
(Start: 19 @9593 has 3 MA's), (24, 9644), (Start: 57 @9785 has 1 MA's), (62, 9800), (66, 9839), (67,
9842), (81, 10076), (85, 10097), (Start: 89 @10139 has 1 MA's), (91, 10166), (92, 10172), (94, 10199),
(105, 10367), (111, 10460), (112, 10490), (116, 10544), (123, 10643), (126, 10679), (129, 10697),
(137, 10787), (139, 10796), (142, 10808), (145, 10829), (149, 10868), (155, 10940), (157, 10952),
(164, 11018), (170, 11045), (172, 11069), (176, 11084), (180, 11147), (181, 11150), (198, 11273),
(199, 11282), (207, 11366),

Gene: Bunnybear_26 Start: 24720, Stop: 26759, Start Num: 8
Candidate Starts for Bunnybear_26:
(Start: 8 @24720 has 2 MA's), (14, 24801), (15, 24810), (21, 24879), (25, 24912), (30, 24957), (43,
25047), (59, 25128), (68, 25203), (79, 25416), (91, 25515), (107, 25758), (108, 25791), (110, 25809),
(111, 25815), (116, 25899), (117, 25914), (118, 25920), (120, 25971), (121, 25977), (123, 25998),
(150, 26220), (151, 26226), (163, 26358), (164, 26367), (168, 26385), (170, 26394), (173, 26421),
(183, 26511), (186, 26520), (192, 26574), (193, 26577), (194, 26592), (195, 26598), (197, 26616),

Gene: Camerico_27 Start: 32001, Stop: 33617, Start Num: 57
Candidate Starts for Camerico_27:
(41, 31923), (45, 31941), (46, 31950), (Start: 57 @32001 has 1 MA's), (58, 32010), (60, 32022), (61,
32025), (69, 32160), (73, 32208), (79, 32286), (84, 32304), (91, 32376), (100, 32475), (101, 32532),
(111, 32676), (112, 32706), (117, 32775), (121, 32838), (122, 32850), (123, 32859), (132, 32970),
(135, 32991), (142, 33018), (161, 33207), (170, 33255), (172, 33279), (192, 33435),

Gene: CherryTomatoes_97 Start: 48896, Stop: 50605, Start Num: 40
Candidate Starts for CherryTomatoes_97:
(23, 48803), (Start: 40 @48896 has 3 MA's), (42, 48911), (68, 49052), (81, 49274), (85, 49292), (91,
49361), (105, 49562), (108, 49631), (111, 49655), (116, 49739), (123, 49838), (128, 49883), (131,
49931), (149, 50063), (159, 50186), (160, 50189), (164, 50213), (168, 50231), (172, 50264), (191,

50420), (197, 50465), (207, 50561),

Gene: Confidence_29 Start: 24635, Stop: 26650, Start Num: 7
Candidate Starts for Confidence_29:
(Start: 7 @24635 has 2 MA's), (31, 24896), (32, 24923), (35, 24944), (37, 24950), (48, 25007), (77, 25268), (86, 25328), (91, 25388), (92, 25394), (95, 25433), (102, 25562), (104, 25589), (110, 25682), (111, 25688), (120, 25844), (121, 25850), (123, 25871), (138, 26018), (142, 26033), (143, 26039), (145, 26054), (148, 26084), (177, 26339), (187, 26435), (192, 26465), (193, 26468), (194, 26483), (200, 26534),

Gene: Emianna_21 Start: 10466, Stop: 12502, Start Num: 5
Candidate Starts for Emianna_21:
(Start: 5 @10466 has 4 MA's), (10, 10547), (18, 10607), (20, 10634), (26, 10697), (29, 10721), (33, 10736), (34, 10739), (53, 10838), (70, 11042), (85, 11189), (91, 11258), (96, 11315), (105, 11459), (106, 11480), (107, 11495), (108, 11528), (111, 11552), (116, 11636), (122, 11726), (123, 11735), (149, 11960), (160, 12086), (164, 12110), (172, 12161), (177, 12200), (180, 12239), (184, 12260), (194, 12338), (206, 12455), (207, 12458),

Gene: Float294_22 Start: 10208, Stop: 12094, Start Num: 6
Candidate Starts for Float294_22:
(Start: 6 @10208 has 2 MA's), (10, 10265), (20, 10352), (22, 10379), (27, 10427), (54, 10469), (67, 10529), (70, 10634), (81, 10763), (85, 10781), (91, 10850), (92, 10856), (96, 10907), (105, 11051), (106, 11072), (107, 11087), (108, 11120), (111, 11144), (116, 11228), (123, 11327), (149, 11552), (160, 11678), (168, 11720), (170, 11729), (172, 11753), (180, 11831), (184, 11852), (197, 11954), (207, 12050),

Gene: GTE8_9 Start: 3345, Stop: 5333, Start Num: 10
Candidate Starts for GTE8_9:
(3, 3216), (10, 3345), (12, 3366), (16, 3387), (33, 3564), (53, 3666), (63, 3726), (81, 3999), (85, 4020), (91, 4089), (92, 4095), (96, 4146), (101, 4245), (102, 4263), (105, 4290), (107, 4326), (108, 4359), (110, 4377), (111, 4383), (112, 4413), (116, 4467), (123, 4566), (126, 4602), (131, 4659), (141, 4725), (149, 4791), (155, 4863), (160, 4917), (164, 4941), (168, 4959), (170, 4968), (172, 4992), (175, 5004), (184, 5091), (198, 5196), (207, 5289),

Gene: Gibbles_34 Start: 37129, Stop: 38808, Start Num: 44
Candidate Starts for Gibbles_34:
(Start: 44 @37129 has 1 MA's), (51, 37150), (Start: 57 @37183 has 1 MA's), (64, 37228), (65, 37234), (91, 37564), (99, 37660), (111, 37864), (114, 37930), (116, 37948), (117, 37963), (118, 37969), (123, 38047), (125, 38077), (127, 38086), (130, 38125), (139, 38194), (152, 38287), (165, 38422), (170, 38443), (201, 38695), (203, 38716), (204, 38740), (210, 38797),

Gene: KidneyBean_21 Start: 10229, Stop: 12265, Start Num: 5
Candidate Starts for KidneyBean_21:
(Start: 5 @10229 has 4 MA's), (10, 10310), (18, 10370), (20, 10397), (26, 10460), (29, 10484), (33, 10499), (34, 10502), (53, 10601), (70, 10805), (85, 10952), (91, 11021), (96, 11078), (105, 11222), (106, 11243), (107, 11258), (108, 11291), (111, 11315), (116, 11399), (122, 11489), (123, 11498), (149, 11723), (160, 11849), (164, 11873), (172, 11924), (177, 11963), (180, 12002), (184, 12023), (194, 12101), (206, 12218), (207, 12221),

Gene: Kurt_21 Start: 10466, Stop: 12502, Start Num: 5
Candidate Starts for Kurt_21:
(Start: 5 @10466 has 4 MA's), (10, 10547), (18, 10607), (20, 10634), (26, 10697), (29, 10721), (33, 10736), (34, 10739), (53, 10838), (70, 11042), (85, 11189), (91, 11258), (96, 11315), (105, 11459),

(106, 11480), (107, 11495), (108, 11528), (111, 11552), (116, 11636), (122, 11726), (123, 11735), (149, 11960), (160, 12086), (164, 12110), (172, 12161), (177, 12200), (180, 12239), (184, 12260), (194, 12338), (206, 12455), (207, 12458),

Gene: Lenoshki_28 Start: 17323, Stop: 18984, Start Num: 36
Candidate Starts for Lenoshki_28:
(36, 17323), (68, 17437), (72, 17557), (79, 17650), (83, 17668), (88, 17704), (Start: 89 @17719 has 1 MA's), (93, 17755), (100, 17845), (103, 17923), (111, 18046), (117, 18145), (122, 18220), (123, 18229), (133, 18349), (134, 18358), (137, 18370), (145, 18412), (152, 18472), (156, 18532), (157, 18535), (158, 18544), (161, 18580), (162, 18586), (171, 18646), (172, 18652), (173, 18655), (185, 18754), (198, 18856), (202, 18898), (205, 18934),

Gene: LilJank_22 Start: 12938, Stop: 14617, Start Num: 52
Candidate Starts for LilJank_22:
(50, 12935), (Start: 52 @12938 has 1 MA's), (74, 13226), (90, 13367), (91, 13373), (100, 13472), (101, 13529), (105, 13580), (106, 13601), (108, 13649), (111, 13673), (112, 13703), (113, 13724), (115, 13745), (118, 13778), (120, 13829), (121, 13835), (122, 13847), (123, 13856), (125, 13889), (126, 13892), (128, 13901), (142, 14018), (144, 14027), (146, 14042), (160, 14204), (161, 14207), (164, 14225), (170, 14252), (173, 14279), (174, 14282), (190, 14423), (192, 14432), (194, 14450), (195, 14456), (208, 14579),

Gene: LuckyLeo_3 Start: 3182, Stop: 5059, Start Num: 17
Candidate Starts for LuckyLeo_3:
(Start: 17 @3182 has 2 MA's), (38, 3338), (47, 3389), (56, 3419), (66, 3488), (67, 3491), (73, 3638), (81, 3725), (85, 3746), (Start: 89 @3788 has 1 MA's), (91, 3815), (92, 3821), (94, 3848), (105, 4016), (110, 4103), (111, 4109), (116, 4193), (119, 4247), (123, 4292), (126, 4328), (137, 4436), (139, 4445), (142, 4457), (145, 4478), (155, 4589), (157, 4601), (164, 4667), (170, 4694), (172, 4718), (180, 4796), (181, 4799), (198, 4922), (199, 4931), (207, 5015),

Gene: Oogie_28 Start: 17349, Stop: 19010, Start Num: 36
Candidate Starts for Oogie_28:
(36, 17349), (68, 17463), (72, 17583), (79, 17676), (83, 17694), (88, 17730), (Start: 89 @17745 has 1 MA's), (93, 17781), (95, 17817), (97, 17838), (103, 17949), (104, 17973), (111, 18072), (117, 18171), (118, 18177), (121, 18234), (123, 18255), (133, 18375), (134, 18384), (137, 18396), (145, 18438), (152, 18498), (153, 18507), (156, 18558), (157, 18561), (158, 18570), (161, 18606), (162, 18612), (171, 18672), (173, 18681), (185, 18780), (198, 18882), (202, 18924), (205, 18960),

Gene: Phomeo_20 Start: 10116, Stop: 12152, Start Num: 5
Candidate Starts for Phomeo_20:
(Start: 5 @10116 has 4 MA's), (10, 10197), (18, 10257), (20, 10284), (26, 10347), (29, 10371), (33, 10386), (34, 10389), (53, 10488), (70, 10692), (85, 10839), (91, 10908), (96, 10965), (105, 11109), (106, 11130), (107, 11145), (108, 11178), (111, 11202), (116, 11286), (123, 11385), (149, 11610), (160, 11736), (164, 11760), (172, 11811), (177, 11850), (180, 11889), (184, 11910), (194, 11988), (206, 12105), (207, 12108),

Gene: Posh_31 Start: 25600, Stop: 27681, Start Num: 7
Candidate Starts for Posh_31:
(Start: 7 @25600 has 2 MA's), (28, 25846), (31, 25861), (32, 25888), (35, 25909), (37, 25915), (48, 25972), (59, 26032), (68, 26107), (77, 26299), (Start: 89 @26392 has 1 MA's), (91, 26419), (95, 26464), (101, 26575), (102, 26593), (104, 26620), (107, 26662), (109, 26698), (110, 26713), (111, 26719), (121, 26881), (123, 26902), (143, 27070), (164, 27280), (177, 27370), (187, 27466), (192, 27496), (193, 27499), (208, 27643),

Gene: Pupper_97 Start: 49017, Stop: 50726, Start Num: 40
Candidate Starts for Pupper_97:
(23, 48924), (Start: 40 @49017 has 3 MA's), (42, 49032), (68, 49173), (81, 49395), (85, 49413), (91, 49482), (105, 49683), (108, 49752), (111, 49776), (116, 49860), (123, 49959), (128, 50004), (131, 50052), (132, 50076), (149, 50184), (159, 50307), (160, 50310), (164, 50334), (168, 50352), (172, 50385), (191, 50541), (197, 50586), (207, 50682),

Gene: SCentae_96 Start: 49163, Stop: 50872, Start Num: 40
Candidate Starts for SCentae_96:
(23, 49070), (Start: 40 @49163 has 3 MA's), (42, 49178), (68, 49319), (81, 49541), (85, 49559), (91, 49628), (105, 49829), (108, 49898), (111, 49922), (113, 49973), (116, 50006), (123, 50105), (128, 50150), (131, 50198), (149, 50330), (159, 50453), (160, 50456), (164, 50480), (168, 50498), (172, 50531), (191, 50687), (197, 50732), (207, 50828),

Gene: Schnabeltier_29 Start: 24627, Stop: 26651, Start Num: 9
Candidate Starts for Schnabeltier_29:
(Start: 9 @24627 has 1 MA's), (25, 24804), (49, 24969), (59, 25020), (68, 25095), (79, 25308), (Start: 89 @25380 has 1 MA's), (91, 25407), (92, 25413), (95, 25452), (108, 25683), (111, 25707), (112, 25737), (117, 25806), (120, 25863), (123, 25890), (124, 25911), (126, 25923), (136, 26025), (138, 26034), (147, 26094), (150, 26112), (160, 26235), (167, 26274), (170, 26286), (173, 26313), (179, 26373), (181, 26391), (182, 26400), (189, 26445), (192, 26466), (193, 26469), (196, 26493), (201, 26538), (207, 26604), (208, 26613), (209, 26622),

Gene: Skysand_22 Start: 10210, Stop: 12096, Start Num: 6
Candidate Starts for Skysand_22:
(Start: 6 @10210 has 2 MA's), (10, 10267), (20, 10354), (22, 10381), (27, 10429), (54, 10471), (67, 10531), (70, 10636), (81, 10765), (85, 10783), (91, 10852), (92, 10858), (96, 10909), (105, 11053), (106, 11074), (107, 11089), (108, 11122), (111, 11146), (116, 11230), (123, 11329), (149, 11554), (160, 11680), (168, 11722), (170, 11731), (172, 11755), (180, 11833), (184, 11854), (197, 11956), (207, 12052),

Gene: Stormageddon_18 Start: 21743, Stop: 23659, Start Num: 11
Candidate Starts for Stormageddon_18:
(Start: 11 @21743 has 1 MA's), (13, 21770), (39, 21992), (55, 22073), (68, 22106), (77, 22295), (82, 22331), (87, 22349), (90, 22400), (91, 22406), (98, 22493), (102, 22580), (104, 22607), (107, 22649), (110, 22703), (111, 22709), (117, 22808), (121, 22871), (132, 23006), (140, 23045), (145, 23075), (150, 23117), (154, 23159), (163, 23255), (166, 23276), (168, 23282), (170, 23291), (173, 23318), (178, 23360), (188, 23450), (192, 23477), (197, 23519), (207, 23615), (208, 23624), (209, 23633),

Gene: Sukkupi_23 Start: 9484, Stop: 11301, Start Num: 19
Candidate Starts for Sukkupi_23:
(Start: 19 @9484 has 3 MA's), (24, 9535), (Start: 57 @9676 has 1 MA's), (62, 9691), (66, 9730), (67, 9733), (81, 9967), (85, 9988), (Start: 89 @10030 has 1 MA's), (91, 10057), (92, 10063), (94, 10090), (105, 10258), (111, 10351), (112, 10381), (116, 10435), (123, 10534), (126, 10570), (129, 10588), (137, 10678), (139, 10687), (142, 10699), (145, 10720), (149, 10759), (152, 10780), (155, 10831), (164, 10909), (170, 10936), (172, 10960), (176, 10975), (180, 11038), (181, 11041), (198, 11164), (199, 11173), (207, 11257),

Gene: Trax_22 Start: 12887, Stop: 14566, Start Num: 52
Candidate Starts for Trax_22:
(50, 12884), (Start: 52 @12887 has 1 MA's), (74, 13175), (90, 13316), (91, 13322), (100, 13421), (101, 13478), (105, 13529), (106, 13550), (108, 13598), (111, 13622), (112, 13652), (113, 13673), (115, 13694), (118, 13727), (120, 13778), (121, 13784), (122, 13796), (123, 13805), (125, 13838), (126,

13841), (128, 13850), (142, 13967), (144, 13976), (146, 13991), (160, 14153), (161, 14156), (164, 14174), (170, 14201), (173, 14228), (174, 14231), (190, 14372), (192, 14381), (194, 14399), (195, 14405), (208, 14528),

Gene: Whitney_38 Start: 29488, Stop: 30759, Start Num: 89
Candidate Starts for Whitney_38:
(71, 29329), (75, 29383), (76, 29395), (78, 29413), (80, 29428), (Start: 89 @29488 has 1 MA's), (91, 29515), (92, 29521), (95, 29560), (108, 29791), (111, 29815), (112, 29845), (117, 29914), (120, 29971), (121, 29977), (123, 29998), (124, 30019), (136, 30133), (145, 30178), (150, 30220), (168, 30385), (169, 30388), (170, 30394), (175, 30430), (177, 30457), (179, 30481), (181, 30499), (182, 30508), (191, 30571), (192, 30574), (193, 30577), (195, 30598), (198, 30619), (207, 30712), (208, 30721),

Gene: Yndexa_23 Start: 9484, Stop: 11301, Start Num: 19
Candidate Starts for Yndexa_23:
(Start: 19 @9484 has 3 MA's), (24, 9535), (Start: 57 @9676 has 1 MA's), (62, 9691), (66, 9730), (67, 9733), (81, 9967), (85, 9988), (Start: 89 @10030 has 1 MA's), (91, 10057), (92, 10063), (94, 10090), (105, 10258), (111, 10351), (112, 10381), (116, 10435), (123, 10534), (126, 10570), (129, 10588), (137, 10678), (139, 10687), (142, 10699), (145, 10720), (149, 10759), (152, 10780), (155, 10831), (164, 10909), (170, 10936), (172, 10960), (176, 10975), (180, 11038), (181, 11041), (198, 11164), (199, 11173), (207, 11257),