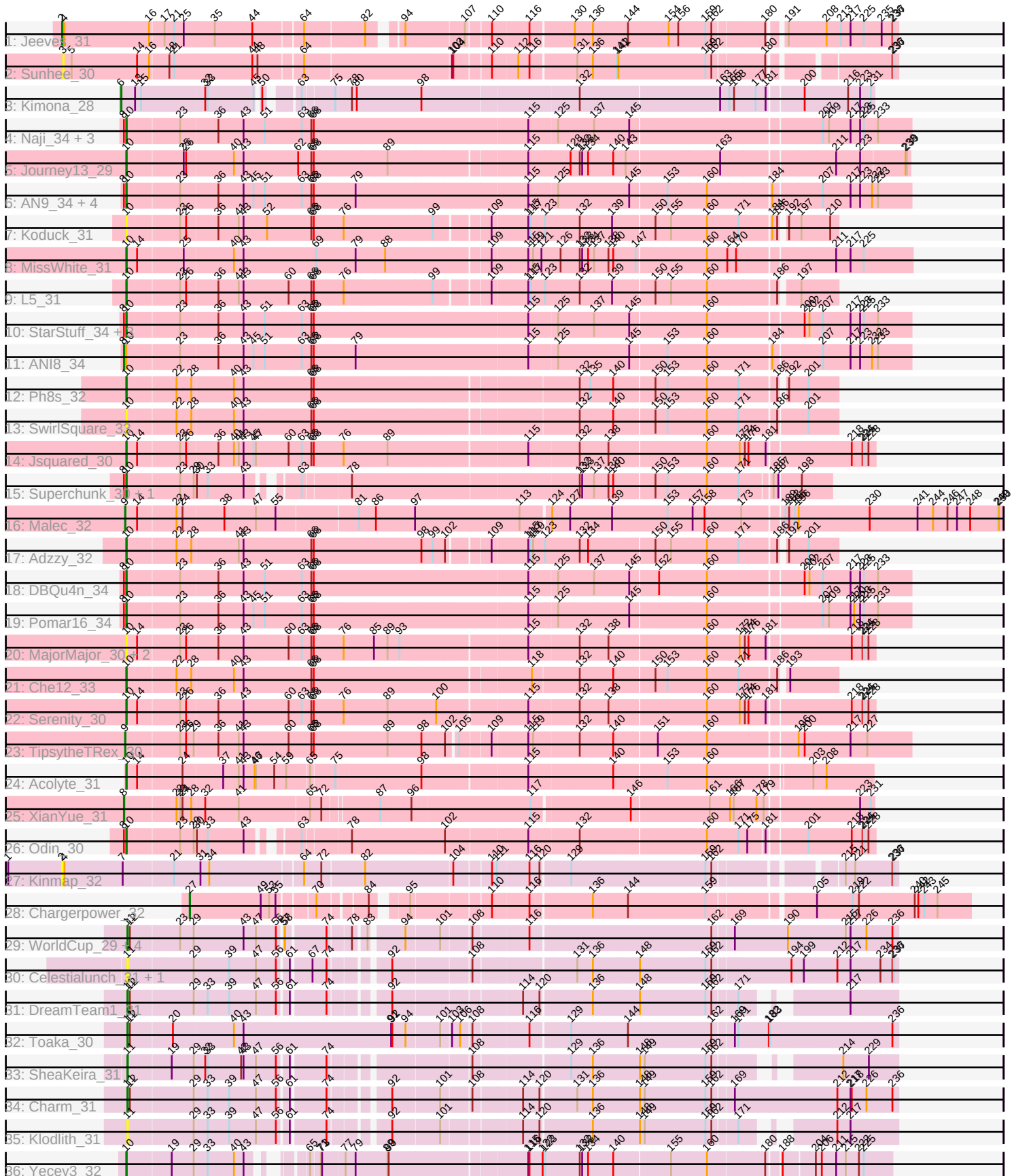


Pham 280511



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 280511 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280511 has 54 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Jeeves_31
- Track 2 : Sunhee_30
- Track 3 : Kimona_28
- Track 4 : Naji_34, D29_31, D32_34, Travvers_34
- Track 5 : Journey13_29
- Track 6 : AN9_34, AN3_31, C3_29, VA6_31, VC3_34
- Track 7 : Koduck_31
- Track 8 : MissWhite_31
- Track 9 : L5_31
- Track 10 : StarStuff_34, Kerberos_34, Tomathan_34, Duplo_34
- Track 11 : ANI8_34
- Track 12 : Ph8s_32
- Track 13 : SwirlSquare_33
- Track 14 : Jsquared_30
- Track 15 : Superchunk_30, Caraxes_30
- Track 16 : Malec_32
- Track 17 : Adzzy_32
- Track 18 : DBQu4n_34
- Track 19 : Pomar16_34
- Track 20 : MajorMajor_30, Bradman_30, Quokka_29
- Track 21 : Che12_33
- Track 22 : Serenity_30
- Track 23 : TopsytheTRex_30
- Track 24 : Acolyte_31
- Track 25 : XianYue_31
- Track 26 : Odin_30
- Track 27 : Kinmap_32
- Track 28 : Chargerpower_32
- Track 29 : WorldCup_29, Bellris_29, Minispark_29, CogOmlette_29, Rahalelujah_30
- Track 30 : Celestialunch_31, MegTheThird_31
- Track 31 : DreamTeam1_31
- Track 32 : Toaka_30
- Track 33 : SheaKeira_31
- Track 34 : Charm_31
- Track 35 : Klodlith_31
- Track 36 : Yecey3_32

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

The start number called the most often in the published annotations is 10, it was called in 26 of the 38 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AN3_31, AN9_34, Acolyte_31, Adzzy_32, Bradman_30, C3_29, Caraxes_30, Che12_33, D29_31, D32_34, DBQu4n_34, Duplo_34, Journey13_29, Jsquared_30, Kerberos_34, Koduck_31, L5_31, MajorMajor_30, MissWhite_31, Naji_34, Odin_30, Ph8s_32, Pomar16_34, Quokka_29, Serenity_30, StarStuff_34, Superchunk_30, SwirlSquare_33, Tomathan_34, Travvers_34, VA6_31, VC3_34, Yecey3_32,

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

- ANI8_34,

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

- Bellris_29, Celestialunch_31, Chargerpower_32, Charm_31, CogOmlette_29, DreamTeam1_31, Jeeves_31, Kimona_28, Kinmap_32, Klodlith_31, Malec_32, MegTheThird_31, Minispark_29, Rahalelujah_30, Sheakeira_31, Sunhee_30, TipsytheTRex_30, Toaka_30, WorldCup_29, XianYue_31,

Summary by start number:

Start 2:

- Found in 2 of 54 (3.7%) of genes in pham
- Manual Annotations of this start: 1 of 38
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jeeves_31 (A14), Kinmap_32 (A21),

Start 3:

- Found in 1 of 54 (1.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sunhee_30 (A14),

Start 6:

- Found in 1 of 54 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 38
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kimona_28 (A19),

Start 8:

- Found in 20 of 54 (37.0%) of genes in pham
- Manual Annotations of this start: 2 of 38
- Called 10.0% of time when present
- Phage (with cluster) where this start called: ANI8_34 (A2), XianYue_31 (A2),

Start 9:

- Found in 2 of 54 (3.7%) of genes in pham
- Manual Annotations of this start: 2 of 38

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Malec_32 (A2), TipsytheTRex_30 (A2),

Start 10:

- Found in 34 of 54 (63.0%) of genes in pham
- Manual Annotations of this start: 26 of 38
- Called 97.1% of time when present
- Phage (with cluster) where this start called: AN3_31 (A2), AN9_34 (A2), Acolyte_31 (A2), Adzzy_32 (A2), Bradman_30 (A2), C3_29 (A2), Caraxes_30 (A2), Che12_33 (A2), D29_31 (A2), D32_34 (A2), DBQu4n_34 (A2), Duplo_34 (A2), Journey13_29 (A2), Jsquared_30 (A2), Kerberos_34 (A2), Koduck_31 (A2), L5_31 (A2), MajorMajor_30 (A2), MissWhite_31 (A2), Naji_34 (A2), Odin_30 (A2), Ph8s_32 (A2), Pomar16_34 (A2), Quokka_29 (A2), Serenity_30 (A2), StarStuff_34 (A2), Superchunk_30 (A2), SwirlSquare_33 (A2), Tomathan_34 (A2), Travvers_34 (A2), VA6_31 (A2), VC3_34 (A2), Yecey3_32 (A9),

Start 11:

- Found in 12 of 54 (22.2%) of genes in pham
- Manual Annotations of this start: 5 of 38
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bellris_29 (A9), Celestialunch_31 (A9), Charm_31 (A9), CogOmlette_29 (A9), DreamTeam1_31 (A9), Klodlith_31 (A9), MegTheThird_31 (A9), Minispark_29 (A9), Rahalelujah_30 (A9), SheaKeira_31 (A9), Toaka_30 (A9), WorldCup_29 (A9),

Start 27:

- Found in 1 of 54 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 38
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chargerpower_32 (A22),

Summary by clusters:

There are 6 clusters represented in this pham: A21, A22, A14, A19, A2, A9,

Info for manual annotations of cluster A14:

- Start number 2 was manually annotated 1 time for cluster A14.

Info for manual annotations of cluster A19:

- Start number 6 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 8 was manually annotated 2 times for cluster A2.
- Start number 9 was manually annotated 2 times for cluster A2.
- Start number 10 was manually annotated 25 times for cluster A2.

Info for manual annotations of cluster A22:

- Start number 27 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A9:

- Start number 10 was manually annotated 1 time for cluster A9.
- Start number 11 was manually annotated 5 times for cluster A9.

Gene Information:

Gene: AN3_31 Start: 22715, Stop: 24571, Start Num: 10

Candidate Starts for AN3_31:

(Start: 8 @22709 has 2 MA's), (Start: 10 @22715 has 26 MA's), (23, 22835), (36, 22925), (43, 22985), (45, 23009), (51, 23036), (63, 23129), (66, 23153), (68, 23159), (79, 23261), (115, 23666), (125, 23735), (145, 23903), (153, 23990), (160, 24086), (184, 24236), (207, 24350), (217, 24419), (223, 24443), (232, 24473), (233, 24488),

Gene: AN9_34 Start: 22703, Stop: 24556, Start Num: 10

Candidate Starts for AN9_34:

(Start: 8 @22697 has 2 MA's), (Start: 10 @22703 has 26 MA's), (23, 22823), (36, 22913), (43, 22973), (45, 22997), (51, 23024), (63, 23117), (66, 23141), (68, 23147), (79, 23249), (115, 23654), (125, 23723), (145, 23891), (153, 23978), (160, 24074), (184, 24221), (207, 24335), (217, 24404), (223, 24428), (232, 24458), (233, 24473),

Gene: ANI8_34 Start: 22697, Stop: 24556, Start Num: 8

Candidate Starts for ANI8_34:

(Start: 8 @22697 has 2 MA's), (Start: 10 @22703 has 26 MA's), (23, 22823), (36, 22913), (43, 22973), (45, 22997), (51, 23024), (63, 23117), (66, 23141), (68, 23147), (79, 23249), (115, 23654), (125, 23723), (145, 23891), (153, 23978), (160, 24074), (184, 24221), (207, 24335), (217, 24404), (223, 24428), (232, 24458), (233, 24473),

Gene: Acolyte_31 Start: 23339, Stop: 25057, Start Num: 10

Candidate Starts for Acolyte_31:

(Start: 10 @23339 has 26 MA's), (14, 23363), (24, 23468), (37, 23564), (41, 23600), (43, 23612), (46, 23639), (47, 23642), (54, 23687), (59, 23717), (65, 23768), (75, 23822), (98, 24026), (115, 24263), (140, 24461), (153, 24584), (160, 24680), (203, 24908), (208, 24941),

Gene: Adzzy_32 Start: 21442, Stop: 23085, Start Num: 10

Candidate Starts for Adzzy_32:

(Start: 10 @21442 has 26 MA's), (22, 21553), (28, 21589), (41, 21700), (43, 21712), (66, 21880), (68, 21886), (98, 22150), (99, 22174), (102, 22201), (109, 22288), (115, 22372), (117, 22378), (119, 22384), (123, 22414), (132, 22498), (134, 22519), (150, 22672), (155, 22711), (160, 22798), (171, 22870), (186, 22957), (192, 22966), (201, 23014),

Gene: Bellris_29 Start: 22236, Stop: 23978, Start Num: 11

Candidate Starts for Bellris_29:

(Start: 11 @22236 has 5 MA's), (12, 22242), (23, 22359), (29, 22392), (43, 22509), (47, 22539), (56, 22587), (57, 22596), (58, 22599), (74, 22686), (78, 22731), (83, 22758), (94, 22833), (101, 22911), (108, 22977), (116, 23103), (162, 23535), (169, 23580), (190, 23712), (215, 23853), (217, 23865), (226, 23904), (236, 23967),

Gene: Bradman_30 Start: 21646, Stop: 23397, Start Num: 10

Candidate Starts for Bradman_30:

(Start: 10 @21646 has 26 MA's), (14, 21667), (23, 21766), (26, 21781), (36, 21856), (43, 21916), (60, 22027), (63, 22060), (66, 22084), (68, 22090), (76, 22162), (85, 22237), (89, 22270), (93, 22300), (115, 22588), (132, 22708), (138, 22777), (160, 23008), (172, 23083), (174, 23095), (176, 23104), (181, 23143), (218, 23338), (224, 23365), (225, 23368), (228, 23380),

Gene: C3_29 Start: 22703, Stop: 24556, Start Num: 10

Candidate Starts for C3_29:

(Start: 8 @22697 has 2 MA's), (Start: 10 @22703 has 26 MA's), (23, 22823), (36, 22913), (43, 22973), (45, 22997), (51, 23024), (63, 23117), (66, 23141), (68, 23147), (79, 23249), (115, 23654), (125, 23723), (145, 23891), (153, 23978), (160, 24074), (184, 24221), (207, 24335), (217, 24404), (223, 24428), (232, 24458), (233, 24473),

Gene: Caraxes_30 Start: 21397, Stop: 22950, Start Num: 10

Candidate Starts for Caraxes_30:

(Start: 8 @21391 has 2 MA's), (Start: 10 @21397 has 26 MA's), (23, 21517), (29, 21550), (30, 21553), (33, 21580), (43, 21667), (63, 21754), (78, 21856), (132, 22384), (133, 22390), (137, 22420), (138, 22453), (140, 22465), (150, 22558), (153, 22588), (160, 22684), (171, 22756), (185, 22822), (187, 22834), (198, 22879),

Gene: Celestiallunch_31 Start: 22321, Stop: 24066, Start Num: 11

Candidate Starts for Celestiallunch_31:

(Start: 11 @22321 has 5 MA's), (29, 22477), (39, 22558), (47, 22624), (56, 22672), (61, 22696), (67, 22741), (74, 22771), (92, 22885), (108, 23062), (131, 23293), (136, 23332), (148, 23446), (159, 23605), (162, 23620), (194, 23806), (199, 23836), (212, 23917), (217, 23950), (234, 24022), (236, 24052), (237, 24055),

Gene: Chargerpower_32 Start: 22051, Stop: 23787, Start Num: 27

Candidate Starts for Chargerpower_32:

(Start: 27 @22051 has 1 MA's), (49, 22222), (53, 22243), (55, 22255), (70, 22333), (84, 22432), (95, 22492), (110, 22666), (116, 22750), (136, 22894), (144, 22978), (159, 23167), (205, 23404), (219, 23494), (222, 23509), (240, 23647), (242, 23656), (243, 23671), (245, 23704),

Gene: Charm_31 Start: 22329, Stop: 24071, Start Num: 11

Candidate Starts for Charm_31:

(Start: 11 @22329 has 5 MA's), (12, 22335), (29, 22485), (33, 22515), (39, 22566), (47, 22632), (56, 22680), (61, 22704), (74, 22779), (92, 22893), (101, 23004), (108, 23070), (114, 23184), (120, 23220), (131, 23301), (136, 23340), (148, 23454), (149, 23466), (159, 23613), (162, 23628), (169, 23673), (212, 23925), (217, 23958), (218, 23961), (226, 23997), (236, 24060),

Gene: Che12_33 Start: 21672, Stop: 23324, Start Num: 10

Candidate Starts for Che12_33:

(Start: 10 @21672 has 26 MA's), (22, 21783), (28, 21819), (40, 21918), (43, 21942), (66, 22110), (68, 22116), (118, 22626), (132, 22737), (140, 22818), (150, 22911), (153, 22941), (160, 23037), (171, 23109), (186, 23196), (193, 23208),

Gene: CogOmlette_29 Start: 22236, Stop: 23978, Start Num: 11

Candidate Starts for CogOmlette_29:

(Start: 11 @22236 has 5 MA's), (12, 22242), (23, 22359), (29, 22392), (43, 22509), (47, 22539), (56, 22587), (57, 22596), (58, 22599), (74, 22686), (78, 22731), (83, 22758), (94, 22833), (101, 22911), (108, 22977), (116, 23103), (162, 23535), (169, 23580), (190, 23712), (215, 23853), (217, 23865), (226, 23904), (236, 23967),

Gene: D29_31 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for D29_31:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (207, 24191), (209, 24206), (217, 24260), (223, 24284), (225, 24293), (233, 24329),

Gene: D32_34 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for D32_34:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (207, 24191), (209, 24206), (217, 24260), (223, 24284), (225, 24293), (233, 24329),

Gene: DBQu4n_34 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for DBQu4n_34:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (152, 23813), (160, 23930), (200, 24149), (202, 24161), (207, 24191), (217, 24260), (223, 24284), (225, 24293), (233, 24329),

Gene: DreamTeam1_31 Start: 22328, Stop: 23986, Start Num: 11

Candidate Starts for DreamTeam1_31:

(Start: 11 @22328 has 5 MA's), (12, 22334), (29, 22484), (33, 22514), (39, 22565), (47, 22631), (56, 22679), (61, 22703), (74, 22778), (92, 22892), (114, 23183), (120, 23219), (136, 23339), (148, 23453), (159, 23612), (162, 23627), (171, 23681), (217, 23870),

Gene: Duplo_34 Start: 22597, Stop: 24450, Start Num: 10

Candidate Starts for Duplo_34:

(Start: 8 @22591 has 2 MA's), (Start: 10 @22597 has 26 MA's), (23, 22717), (36, 22807), (43, 22867), (51, 22918), (63, 23011), (66, 23035), (68, 23041), (115, 23548), (125, 23617), (137, 23704), (145, 23785), (160, 23968), (200, 24187), (202, 24199), (207, 24229), (217, 24298), (223, 24322), (225, 24331), (233, 24367),

Gene: Jeeves_31 Start: 21978, Stop: 23861, Start Num: 2

Candidate Starts for Jeeves_31:

(Start: 2 @21978 has 1 MA's), (4, 21984), (16, 22194), (17, 22227), (21, 22251), (25, 22272), (35, 22347), (44, 22437), (64, 22551), (82, 22692), (94, 22746), (107, 22881), (110, 22935), (116, 23019), (130, 23118), (136, 23163), (144, 23247), (154, 23346), (156, 23370), (159, 23436), (162, 23451), (180, 23571), (191, 23598), (208, 23688), (213, 23724), (217, 23748), (225, 23781), (235, 23823), (236, 23850), (237, 23853),

Gene: Journey13_29 Start: 21908, Stop: 23737, Start Num: 10

Candidate Starts for Journey13_29:

(Start: 10 @21908 has 26 MA's), (25, 22037), (26, 22043), (40, 22154), (43, 22178), (62, 22313), (66, 22346), (68, 22352), (89, 22532), (115, 22850), (128, 22952), (132, 22973), (133, 22979), (134, 22994), (140, 23054), (143, 23081), (163, 23300), (211, 23564), (223, 23624), (238, 23726), (239, 23729),

Gene: Jsquared_30 Start: 21719, Stop: 23470, Start Num: 10

Candidate Starts for Jsquared_30:

(Start: 10 @21719 has 26 MA's), (14, 21740), (23, 21839), (26, 21854), (36, 21929), (40, 21965), (41, 21977), (43, 21989), (45, 22013), (47, 22019), (60, 22100), (63, 22133), (66, 22157), (68, 22163), (76, 22235), (89, 22343), (115, 22661), (132, 22781), (138, 22850), (160, 23081), (172, 23156), (174, 23168), (176, 23177), (181, 23216), (218, 23411), (224, 23438), (225, 23441), (228, 23453),

Gene: Kerberos_34 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for Kerberos_34:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (160, 23930), (200, 24149), (202, 24161), (207, 24191), (217, 24260), (223, 24284), (225,

24293), (233, 24329),

Gene: Kimona_28 Start: 20738, Stop: 22444, Start Num: 6

Candidate Starts for Kimona_28:

(Start: 6 @20738 has 1 MA's), (13, 20771), (15, 20786), (32, 20936), (33, 20942), (45, 21053), (50, 21059), (63, 21116), (75, 21185), (78, 21218), (80, 21230), (98, 21389), (132, 21752), (163, 22079), (165, 22100), (168, 22112), (177, 22166), (181, 22190), (200, 22271), (216, 22379), (223, 22409), (231, 22436),

Gene: Kinmap_32 Start: 22357, Stop: 24255, Start Num: 2

Candidate Starts for Kinmap_32:

(1, 22222), (Start: 2 @22357 has 1 MA's), (4, 22363), (7, 22507), (21, 22630), (31, 22696), (34, 22717), (64, 22936), (72, 22978), (82, 23077), (104, 23281), (110, 23362), (111, 23374), (116, 23446), (120, 23470), (129, 23536), (159, 23863), (162, 23878), (215, 24130), (221, 24154), (236, 24244), (237, 24247),

Gene: Klodlith_31 Start: 22328, Stop: 23986, Start Num: 11

Candidate Starts for Klodlith_31:

(Start: 11 @22328 has 5 MA's), (29, 22484), (33, 22514), (39, 22565), (47, 22631), (56, 22679), (61, 22703), (74, 22778), (92, 22892), (101, 23003), (114, 23183), (120, 23219), (136, 23339), (148, 23453), (149, 23465), (159, 23612), (162, 23627), (171, 23681), (212, 23837), (217, 23870),

Gene: Koduck_31 Start: 21936, Stop: 23582, Start Num: 10

Candidate Starts for Koduck_31:

(Start: 10 @21936 has 26 MA's), (23, 22056), (26, 22071), (36, 22146), (41, 22194), (43, 22206), (52, 22263), (66, 22374), (68, 22380), (76, 22452), (99, 22671), (109, 22785), (115, 22869), (117, 22875), (123, 22911), (132, 22995), (139, 23073), (150, 23169), (155, 23208), (160, 23295), (171, 23367), (184, 23442), (186, 23454), (192, 23463), (197, 23493), (210, 23562),

Gene: L5_31 Start: 21890, Stop: 23536, Start Num: 10

Candidate Starts for L5_31:

(Start: 10 @21890 has 26 MA's), (23, 22010), (26, 22025), (36, 22100), (41, 22148), (43, 22160), (60, 22271), (66, 22328), (68, 22334), (76, 22406), (99, 22625), (109, 22739), (115, 22823), (117, 22829), (123, 22865), (132, 22949), (139, 23027), (150, 23123), (155, 23162), (160, 23249), (186, 23408), (197, 23447),

Gene: MajorMajor_30 Start: 21646, Stop: 23397, Start Num: 10

Candidate Starts for MajorMajor_30:

(Start: 10 @21646 has 26 MA's), (14, 21667), (23, 21766), (26, 21781), (36, 21856), (43, 21916), (60, 22027), (63, 22060), (66, 22084), (68, 22090), (76, 22162), (85, 22237), (89, 22270), (93, 22300), (115, 22588), (132, 22708), (138, 22777), (160, 23008), (172, 23083), (174, 23095), (176, 23104), (181, 23143), (218, 23338), (224, 23365), (225, 23368), (228, 23380),

Gene: Malec_32 Start: 23029, Stop: 25110, Start Num: 9

Candidate Starts for Malec_32:

(Start: 9 @23029 has 2 MA's), (14, 23053), (22, 23143), (24, 23158), (38, 23257), (47, 23332), (55, 23380), (81, 23569), (86, 23608), (97, 23704), (113, 23953), (124, 24016), (127, 24061), (139, 24163), (153, 24301), (157, 24364), (158, 24394), (173, 24478), (189, 24568), (192, 24577), (195, 24592), (196, 24601), (230, 24775), (241, 24895), (244, 24934), (246, 24970), (247, 24994), (248, 25027), (249, 25096), (250, 25099),

Gene: MegTheThird_31 Start: 22321, Stop: 24066, Start Num: 11

Candidate Starts for MegTheThird_31:

(Start: 11 @22321 has 5 MA's), (29, 22477), (39, 22558), (47, 22624), (56, 22672), (61, 22696), (67, 22741), (74, 22771), (92, 22885), (108, 23062), (131, 23293), (136, 23332), (148, 23446), (159, 23605), (162, 23620), (194, 23806), (199, 23836), (212, 23917), (217, 23950), (234, 24022), (236, 24052), (237, 24055),

Gene: Minispark_29 Start: 22236, Stop: 23978, Start Num: 11

Candidate Starts for Minispark_29:

(Start: 11 @22236 has 5 MA's), (12, 22242), (23, 22359), (29, 22392), (43, 22509), (47, 22539), (56, 22587), (57, 22596), (58, 22599), (74, 22686), (78, 22731), (83, 22758), (94, 22833), (101, 22911), (108, 22977), (116, 23103), (162, 23535), (169, 23580), (190, 23712), (215, 23853), (217, 23865), (226, 23904), (236, 23967),

Gene: MissWhite_31 Start: 21856, Stop: 23703, Start Num: 10

Candidate Starts for MissWhite_31:

(Start: 10 @21856 has 26 MA's), (14, 21877), (25, 21985), (40, 22102), (43, 22126), (69, 22306), (79, 22402), (88, 22474), (109, 22711), (115, 22795), (119, 22807), (121, 22828), (126, 22876), (132, 22921), (133, 22927), (134, 22942), (137, 22957), (138, 22990), (140, 23002), (147, 23053), (160, 23221), (164, 23266), (170, 23284), (211, 23512), (217, 23548), (225, 23581),

Gene: Naji_34 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for Naji_34:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (207, 24191), (209, 24206), (217, 24260), (223, 24284), (225, 24293), (233, 24329),

Gene: Odin_30 Start: 21523, Stop: 23199, Start Num: 10

Candidate Starts for Odin_30:

(Start: 8 @21517 has 2 MA's), (Start: 10 @21523 has 26 MA's), (23, 21643), (29, 21676), (30, 21679), (33, 21706), (43, 21793), (63, 21880), (78, 21982), (102, 22204), (115, 22390), (132, 22510), (160, 22810), (171, 22885), (175, 22906), (181, 22945), (201, 23035), (218, 23140), (224, 23167), (225, 23170), (228, 23182),

Gene: Ph8s_32 Start: 21442, Stop: 23091, Start Num: 10

Candidate Starts for Ph8s_32:

(Start: 10 @21442 has 26 MA's), (22, 21553), (28, 21589), (40, 21688), (43, 21712), (66, 21880), (68, 21886), (132, 22504), (135, 22531), (140, 22585), (150, 22678), (153, 22708), (160, 22804), (171, 22876), (186, 22963), (192, 22972), (201, 23020),

Gene: Pomar16_34 Start: 22600, Stop: 24453, Start Num: 10

Candidate Starts for Pomar16_34:

(Start: 8 @22594 has 2 MA's), (Start: 10 @22600 has 26 MA's), (23, 22720), (36, 22810), (43, 22870), (45, 22894), (51, 22921), (63, 23014), (66, 23038), (68, 23044), (115, 23551), (125, 23620), (145, 23788), (160, 23971), (207, 24232), (209, 24247), (217, 24301), (220, 24310), (223, 24325), (225, 24334), (233, 24370),

Gene: Quokka_29 Start: 21646, Stop: 23397, Start Num: 10

Candidate Starts for Quokka_29:

(Start: 10 @21646 has 26 MA's), (14, 21667), (23, 21766), (26, 21781), (36, 21856), (43, 21916), (60, 22027), (63, 22060), (66, 22084), (68, 22090), (76, 22162), (85, 22237), (89, 22270), (93, 22300), (115, 22588), (132, 22708), (138, 22777), (160, 23008), (172, 23083), (174, 23095), (176, 23104), (181, 23143), (218, 23338), (224, 23365), (225, 23368), (228, 23380),

Gene: Rahalelujah_30 Start: 22236, Stop: 23978, Start Num: 11

Candidate Starts for Rahalelujah_30:

(Start: 11 @22236 has 5 MA's), (12, 22242), (23, 22359), (29, 22392), (43, 22509), (47, 22539), (56, 22587), (57, 22596), (58, 22599), (74, 22686), (78, 22731), (83, 22758), (94, 22833), (101, 22911), (108, 22977), (116, 23103), (162, 23535), (169, 23580), (190, 23712), (215, 23853), (217, 23865), (226, 23904), (236, 23967),

Gene: Serenity_30 Start: 21771, Stop: 23522, Start Num: 10

Candidate Starts for Serenity_30:

(Start: 10 @21771 has 26 MA's), (14, 21792), (23, 21891), (26, 21906), (36, 21981), (43, 22041), (60, 22152), (63, 22185), (66, 22209), (68, 22215), (76, 22287), (89, 22395), (100, 22512), (115, 22713), (132, 22833), (138, 22902), (160, 23133), (172, 23208), (174, 23220), (176, 23229), (181, 23268), (218, 23463), (224, 23490), (225, 23493), (228, 23505),

Gene: SheaKeira_31 Start: 22351, Stop: 24009, Start Num: 11

Candidate Starts for SheaKeira_31:

(Start: 11 @22351 has 5 MA's), (19, 22453), (29, 22507), (32, 22531), (33, 22537), (42, 22618), (43, 22624), (47, 22654), (56, 22702), (61, 22726), (74, 22801), (108, 23092), (129, 23308), (136, 23362), (148, 23476), (149, 23488), (159, 23635), (162, 23650), (214, 23875), (229, 23938),

Gene: StarStuff_34 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for StarStuff_34:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (160, 23930), (200, 24149), (202, 24161), (207, 24191), (217, 24260), (223, 24284), (225, 24293), (233, 24329),

Gene: Sunhee_30 Start: 22065, Stop: 23957, Start Num: 3

Candidate Starts for Sunhee_30:

(3, 22065), (5, 22086), (14, 22248), (16, 22278), (18, 22323), (21, 22335), (44, 22524), (48, 22536), (64, 22638), (103, 22980), (104, 22983), (110, 23064), (112, 23124), (116, 23148), (131, 23253), (136, 23292), (141, 23349), (142, 23352), (159, 23565), (162, 23580), (180, 23700), (236, 23946), (237, 23949),

Gene: Superchunk_30 Start: 21397, Stop: 22950, Start Num: 10

Candidate Starts for Superchunk_30:

(Start: 8 @21391 has 2 MA's), (Start: 10 @21397 has 26 MA's), (23, 21517), (29, 21550), (30, 21553), (33, 21580), (43, 21667), (63, 21754), (78, 21856), (132, 22384), (133, 22390), (137, 22420), (138, 22453), (140, 22465), (150, 22558), (153, 22588), (160, 22684), (171, 22756), (185, 22822), (187, 22834), (198, 22879),

Gene: SwirlSquare_33 Start: 21533, Stop: 23197, Start Num: 10

Candidate Starts for SwirlSquare_33:

(Start: 10 @21533 has 26 MA's), (22, 21644), (28, 21680), (40, 21779), (43, 21803), (66, 21971), (68, 21977), (132, 22598), (140, 22679), (150, 22772), (153, 22802), (160, 22898), (171, 22970), (186, 23057), (201, 23126),

Gene: TipsytheTRex_30 Start: 21878, Stop: 23713, Start Num: 9

Candidate Starts for TipsytheTRex_30:

(Start: 9 @21878 has 2 MA's), (23, 22001), (26, 22016), (29, 22034), (36, 22091), (41, 22139), (43, 22151), (60, 22262), (66, 22319), (68, 22325), (89, 22505), (98, 22589), (102, 22640), (105, 22661), (109, 22727), (115, 22811), (119, 22823), (132, 22931), (140, 23012), (151, 23111), (160, 23231), (196, 23435), (200, 23450), (217, 23561), (227, 23603),

Gene: Toaka_30 Start: 22544, Stop: 24361, Start Num: 11

Candidate Starts for Toaka_30:

(Start: 11 @22544 has 5 MA's), (12, 22550), (20, 22649), (40, 22793), (43, 22817), (91, 23180), (92, 23183), (94, 23216), (101, 23294), (103, 23318), (106, 23336), (108, 23360), (116, 23486), (129, 23576), (144, 23714), (162, 23918), (169, 23963), (171, 23972), (182, 24047), (183, 24050), (236, 24350),

Gene: Tomathan_34 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for Tomathan_34:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (160, 23930), (200, 24149), (202, 24161), (207, 24191), (217, 24260), (223, 24284), (225, 24293), (233, 24329),

Gene: Travvers_34 Start: 22559, Stop: 24412, Start Num: 10

Candidate Starts for Travvers_34:

(Start: 8 @22553 has 2 MA's), (Start: 10 @22559 has 26 MA's), (23, 22679), (36, 22769), (43, 22829), (51, 22880), (63, 22973), (66, 22997), (68, 23003), (115, 23510), (125, 23579), (137, 23666), (145, 23747), (207, 24191), (209, 24206), (217, 24260), (223, 24284), (225, 24293), (233, 24329),

Gene: VA6_31 Start: 22715, Stop: 24568, Start Num: 10

Candidate Starts for VA6_31:

(Start: 8 @22709 has 2 MA's), (Start: 10 @22715 has 26 MA's), (23, 22835), (36, 22925), (43, 22985), (45, 23009), (51, 23036), (63, 23129), (66, 23153), (68, 23159), (79, 23261), (115, 23666), (125, 23735), (145, 23903), (153, 23990), (160, 24086), (184, 24233), (207, 24347), (217, 24416), (223, 24440), (232, 24470), (233, 24485),

Gene: VC3_34 Start: 22703, Stop: 24556, Start Num: 10

Candidate Starts for VC3_34:

(Start: 8 @22697 has 2 MA's), (Start: 10 @22703 has 26 MA's), (23, 22823), (36, 22913), (43, 22973), (45, 22997), (51, 23024), (63, 23117), (66, 23141), (68, 23147), (79, 23249), (115, 23654), (125, 23723), (145, 23891), (153, 23978), (160, 24074), (184, 24221), (207, 24335), (217, 24404), (223, 24428), (232, 24458), (233, 24473),

Gene: WorldCup_29 Start: 22236, Stop: 23978, Start Num: 11

Candidate Starts for WorldCup_29:

(Start: 11 @22236 has 5 MA's), (12, 22242), (23, 22359), (29, 22392), (43, 22509), (47, 22539), (56, 22587), (57, 22596), (58, 22599), (74, 22686), (78, 22731), (83, 22758), (94, 22833), (101, 22911), (108, 22977), (116, 23103), (162, 23535), (169, 23580), (190, 23712), (215, 23853), (217, 23865), (226, 23904), (236, 23967),

Gene: XianYue_31 Start: 22723, Stop: 24396, Start Num: 8

Candidate Starts for XianYue_31:

(Start: 8 @22723 has 2 MA's), (22, 22840), (23, 22849), (24, 22855), (28, 22876), (32, 22906), (41, 22987), (65, 23155), (72, 23179), (87, 23287), (96, 23353), (117, 23620), (146, 23833), (161, 24019), (166, 24064), (167, 24073), (178, 24124), (179, 24142), (223, 24361), (231, 24388),

Gene: Yecey3_32 Start: 22435, Stop: 24132, Start Num: 10

Candidate Starts for Yecey3_32:

(Start: 10 @22435 has 26 MA's), (19, 22540), (29, 22594), (33, 22624), (40, 22687), (43, 22711), (65, 22789), (71, 22810), (73, 22813), (77, 22864), (79, 22885), (89, 22963), (90, 22966), (115, 23278), (116, 23281), (122, 23314), (123, 23320), (132, 23404), (133, 23410), (134, 23425), (140, 23485), (155, 23617), (160, 23704), (180, 23839), (188, 23866), (204, 23941), (206, 23956), (211, 23992),

(215, 24016), (222, 24049), (225, 24061),