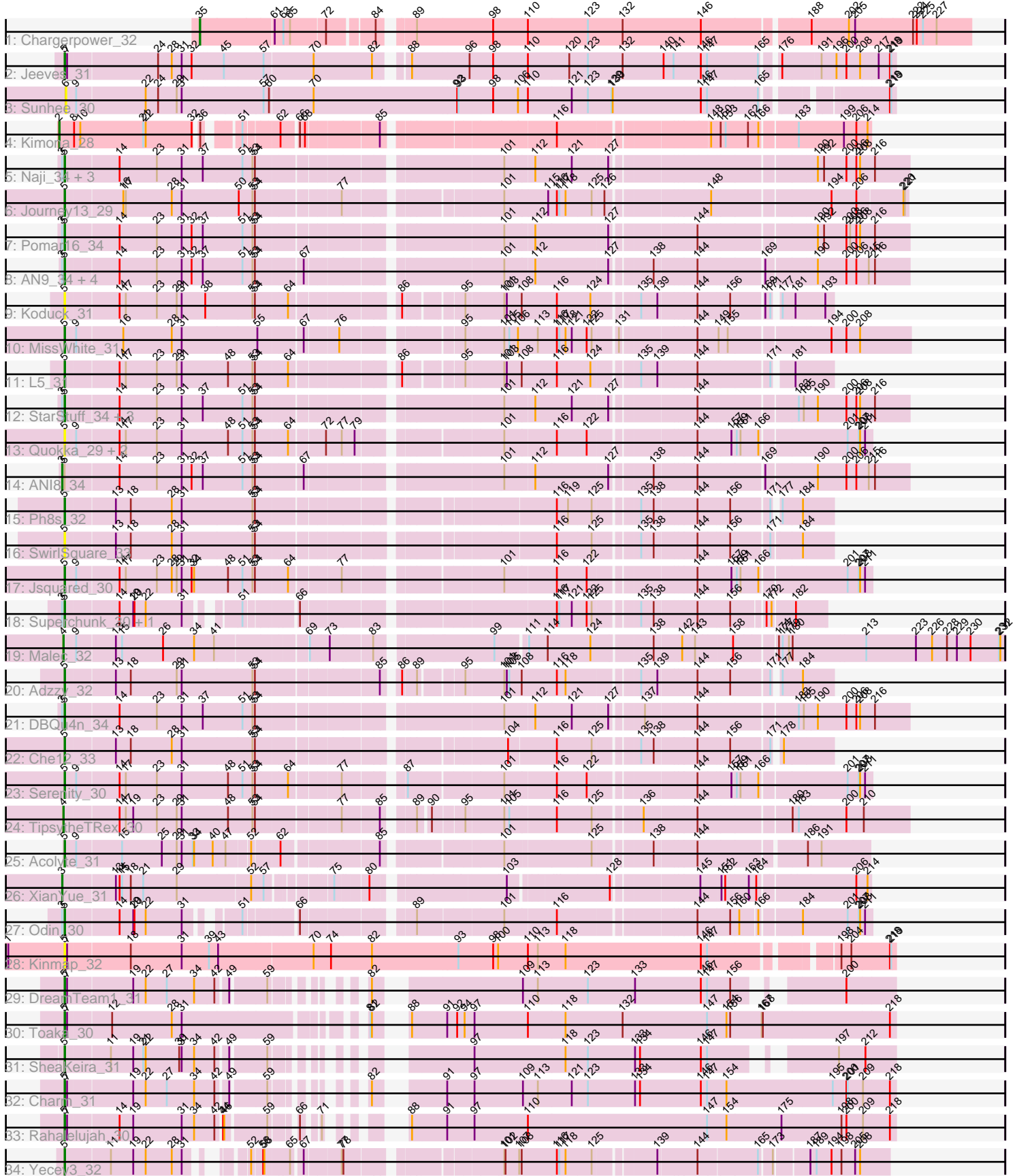


Pham 203043



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 203043 Report

This analysis was run 01/18/25 on database version 583.

Pham number 203043 has 47 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower_32
- Track 2 : Jeeves_31
- Track 3 : Sunhee_30
- Track 4 : Kimona_28
- Track 5 : Naji_34, D29_31, D32_34, Travvers_34
- Track 6 : Journey13_29
- Track 7 : Pomar16_34
- Track 8 : AN9_34, C3_29, VA6_31, AN3_31, VC3_34
- Track 9 : Koduck_31
- Track 10 : MissWhite_31
- Track 11 : L5_31
- Track 12 : StarStuff_34, Kerberos_34, Tomathan_34, Duplo_34
- Track 13 : Quokka_29, MajorMajor_30, Bradman_30
- Track 14 : ANI8_34
- Track 15 : Ph8s_32
- Track 16 : SwirlSquare_33
- Track 17 : Jsquared_30
- Track 18 : Superchunk_30, Caraxes_30
- Track 19 : Malec_32
- Track 20 : Adzzy_32
- Track 21 : DBQu4n_34
- Track 22 : Che12_33
- Track 23 : Serenity_30
- Track 24 : TipsytheTRex_30
- Track 25 : Acolyte_31
- Track 26 : XianYue_31
- Track 27 : Odin_30
- Track 28 : Kinmap_32
- Track 29 : DreamTeam1_31
- Track 30 : Toaka_30
- Track 31 : SheaKeira_31
- Track 32 : Charm_31
- Track 33 : Rahalelujah_30
- Track 34 : 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 5, it was called in 32 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, Charm_31, Che12_33, D29_31, D32_34, DBQu4n_34, DreamTeam1_31, Duplo_34, Jeeves_31, Journey13_29, Jsquared_30, Kerberos_34, Kinmap_32, Koduck_31, L5_31, MajorMajor_30, MissWhite_31, Naji_34, Odin_30, Ph8s_32, Pomar16_34, Quokka_29, Rahalelujah_30, Serenity_30, SheaKeira_31, StarStuff_34, Superchunk_30, SwirlSquare_33, Toaka_30, 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:

- Chargerpower_32, Kimona_28, Malec_32, Sunhee_30, TipsytheTRex_30, XianYue_31,

Summary by start number:

Start 2:

- Found in 1 of 47 (2.1%) 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 3:

- Found in 20 of 47 (42.6%) 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 4:

- Found in 2 of 47 (4.3%) 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 5:

- Found in 41 of 47 (87.2%) of genes in pham
- Manual Annotations of this start: 32 of 38
- Called 97.6% 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), Charm_31 (A9), Che12_33 (A2), D29_31 (A2), D32_34 (A2), DBQu4n_34 (A2), DreamTeam1_31 (A9), Duplo_34 (A2), Jeeves_31 (A14), Journey13_29 (A2), Jsquared_30 (A2), Kerberos_34 (A2), Kinmap_32 (A21), 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), Rahalelujah_30 (A9), Serenity_30 (A2),

SheaKeira_31 (A9), StarStuff_34 (A2), Superchunk_30 (A2), SwirlSquare_33 (A2), Toaka_30 (A9), Tomathan_34 (A2), Travvers_34 (A2), VA6_31 (A2), VC3_34 (A2), Yecey3_32 (A9),

Start 6:

- Found in 1 of 47 (2.1%) 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 35:

- Found in 1 of 47 (2.1%) 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 (A),

Summary by clusters:

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

Info for manual annotations of cluster A:

- Start number 35 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A14:

- Start number 5 was manually annotated 1 time for cluster A14.

Info for manual annotations of cluster A19:

- Start number 2 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 3 was manually annotated 2 times for cluster A2.
- Start number 4 was manually annotated 2 times for cluster A2.
- Start number 5 was manually annotated 25 times for cluster A2.

Info for manual annotations of cluster A9:

- Start number 5 was manually annotated 6 times for cluster A9.

Gene Information:

Gene: AN3_31 Start: 22715, Stop: 24571, Start Num: 5

Candidate Starts for AN3_31:

(Start: 3 @22709 has 2 MA's), (Start: 5 @22715 has 32 MA's), (14, 22835), (23, 22925), (31, 22985), (32, 23009), (37, 23036), (51, 23129), (53, 23153), (54, 23159), (67, 23261), (101, 23666), (112, 23735), (127, 23903), (138, 23990), (144, 24086), (169, 24236), (190, 24350), (200, 24419), (206, 24443), (215, 24473), (216, 24488),

Gene: AN9_34 Start: 22703, Stop: 24556, Start Num: 5

Candidate Starts for AN9_34:

(Start: 3 @22697 has 2 MA's), (Start: 5 @22703 has 32 MA's), (14, 22823), (23, 22913), (31, 22973), (32, 22997), (37, 23024), (51, 23117), (53, 23141), (54, 23147), (67, 23249), (101, 23654), (112,

23723), (127, 23891), (138, 23978), (144, 24074), (169, 24221), (190, 24335), (200, 24404), (206, 24428), (215, 24458), (216, 24473),

Gene: ANI8_34 Start: 22697, Stop: 24556, Start Num: 3

Candidate Starts for ANI8_34:

(Start: 3 @22697 has 2 MA's), (Start: 5 @22703 has 32 MA's), (14, 22823), (23, 22913), (31, 22973), (32, 22997), (37, 23024), (51, 23117), (53, 23141), (54, 23147), (67, 23249), (101, 23654), (112, 23723), (127, 23891), (138, 23978), (144, 24074), (169, 24221), (190, 24335), (200, 24404), (206, 24428), (215, 24458), (216, 24473),

Gene: Acolyte_31 Start: 23339, Stop: 25057, Start Num: 5

Candidate Starts for Acolyte_31:

(Start: 5 @23339 has 32 MA's), (9, 23363), (15, 23468), (25, 23564), (29, 23600), (31, 23612), (33, 23639), (34, 23642), (40, 23687), (47, 23717), (52, 23768), (62, 23822), (85, 24026), (101, 24263), (125, 24461), (138, 24584), (144, 24680), (186, 24908), (191, 24941),

Gene: Adzzy_32 Start: 21442, Stop: 23085, Start Num: 5

Candidate Starts for Adzzy_32:

(Start: 5 @21442 has 32 MA's), (13, 21553), (18, 21589), (29, 21700), (31, 21712), (53, 21880), (54, 21886), (85, 22150), (86, 22174), (89, 22201), (95, 22288), (101, 22372), (103, 22378), (105, 22384), (108, 22414), (116, 22498), (118, 22519), (135, 22672), (139, 22711), (144, 22798), (156, 22870), (171, 22957), (177, 22966), (184, 23014),

Gene: Bradman_30 Start: 21646, Stop: 23397, Start Num: 5

Candidate Starts for Bradman_30:

(Start: 5 @21646 has 32 MA's), (9, 21667), (14, 21766), (17, 21781), (23, 21856), (31, 21916), (48, 22027), (51, 22060), (53, 22084), (54, 22090), (64, 22162), (72, 22237), (77, 22270), (79, 22300), (101, 22588), (116, 22708), (122, 22777), (144, 23008), (157, 23083), (159, 23095), (161, 23104), (166, 23143), (201, 23338), (207, 23365), (208, 23368), (211, 23380),

Gene: C3_29 Start: 22703, Stop: 24556, Start Num: 5

Candidate Starts for C3_29:

(Start: 3 @22697 has 2 MA's), (Start: 5 @22703 has 32 MA's), (14, 22823), (23, 22913), (31, 22973), (32, 22997), (37, 23024), (51, 23117), (53, 23141), (54, 23147), (67, 23249), (101, 23654), (112, 23723), (127, 23891), (138, 23978), (144, 24074), (169, 24221), (190, 24335), (200, 24404), (206, 24428), (215, 24458), (216, 24473),

Gene: Caraxes_30 Start: 21397, Stop: 22950, Start Num: 5

Candidate Starts for Caraxes_30:

(Start: 3 @21391 has 2 MA's), (Start: 5 @21397 has 32 MA's), (14, 21517), (19, 21550), (20, 21553), (22, 21580), (31, 21667), (51, 21754), (66, 21856), (116, 22384), (117, 22390), (121, 22420), (122, 22453), (125, 22465), (135, 22558), (138, 22588), (144, 22684), (156, 22756), (170, 22822), (172, 22834), (182, 22879),

Gene: Chargerpower_32 Start: 22051, Stop: 23787, Start Num: 35

Candidate Starts for Chargerpower_32:

(Start: 35 @22051 has 1 MA's), (61, 22222), (63, 22243), (65, 22255), (72, 22333), (84, 22432), (89, 22492), (98, 22666), (110, 22750), (123, 22894), (132, 22978), (146, 23167), (188, 23404), (202, 23494), (205, 23509), (222, 23647), (224, 23656), (225, 23671), (227, 23704),

Gene: Charm_31 Start: 22329, Stop: 24071, Start Num: 5

Candidate Starts for Charm_31:

(Start: 5 @22329 has 32 MA's), (7, 22335), (19, 22485), (22, 22515), (27, 22566), (34, 22632), (42, 22680), (49, 22704), (59, 22779), (82, 22893), (91, 23004), (97, 23070), (109, 23184), (113, 23220), (121, 23301), (123, 23340), (133, 23454), (134, 23466), (146, 23613), (147, 23628), (154, 23673), (195, 23925), (200, 23958), (201, 23961), (209, 23997), (218, 24060),

Gene: Che12_33 Start: 21672, Stop: 23324, Start Num: 5

Candidate Starts for Che12_33:

(Start: 5 @21672 has 32 MA's), (13, 21783), (18, 21819), (28, 21918), (31, 21942), (53, 22110), (54, 22116), (104, 22626), (116, 22737), (125, 22818), (135, 22911), (138, 22941), (144, 23037), (156, 23109), (171, 23196), (178, 23208),

Gene: D29_31 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for D29_31:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (190, 24191), (192, 24206), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: D32_34 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for D32_34:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (190, 24191), (192, 24206), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: DBQu4n_34 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for DBQu4n_34:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (137, 23813), (144, 23930), (183, 24149), (185, 24161), (190, 24191), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: DreamTeam1_31 Start: 22328, Stop: 23986, Start Num: 5

Candidate Starts for DreamTeam1_31:

(Start: 5 @22328 has 32 MA's), (7, 22334), (19, 22484), (22, 22514), (27, 22565), (34, 22631), (42, 22679), (49, 22703), (59, 22778), (82, 22892), (109, 23183), (113, 23219), (123, 23339), (133, 23453), (146, 23612), (147, 23627), (156, 23681), (200, 23870),

Gene: Duplo_34 Start: 22597, Stop: 24450, Start Num: 5

Candidate Starts for Duplo_34:

(Start: 3 @22591 has 2 MA's), (Start: 5 @22597 has 32 MA's), (14, 22717), (23, 22807), (31, 22867), (37, 22918), (51, 23011), (53, 23035), (54, 23041), (101, 23548), (112, 23617), (121, 23704), (127, 23785), (144, 23968), (183, 24187), (185, 24199), (190, 24229), (200, 24298), (206, 24322), (208, 24331), (216, 24367),

Gene: Jeeves_31 Start: 21978, Stop: 23861, Start Num: 5

Candidate Starts for Jeeves_31:

(Start: 5 @21978 has 32 MA's), (7, 21984), (24, 22194), (28, 22227), (31, 22251), (32, 22272), (45, 22347), (57, 22437), (70, 22551), (82, 22692), (88, 22746), (96, 22881), (98, 22935), (110, 23019), (120, 23118), (123, 23163), (132, 23247), (140, 23346), (141, 23370), (146, 23436), (147, 23451), (165, 23571), (176, 23598), (191, 23688), (196, 23724), (200, 23748), (208, 23781), (217, 23823), (218, 23850), (219, 23853),

Gene: Journey13_29 Start: 21908, Stop: 23737, Start Num: 5

Candidate Starts for Journey13_29:

(Start: 5 @21908 has 32 MA's), (16, 22037), (17, 22043), (28, 22154), (31, 22178), (50, 22313), (53, 22346), (54, 22352), (77, 22532), (101, 22850), (115, 22952), (116, 22973), (117, 22979), (118, 22994), (125, 23054), (126, 23081), (148, 23300), (194, 23564), (206, 23624), (220, 23726), (221, 23729),

Gene: Jsquared_30 Start: 21719, Stop: 23470, Start Num: 5

Candidate Starts for Jsquared_30:

(Start: 5 @21719 has 32 MA's), (9, 21740), (14, 21839), (17, 21854), (23, 21929), (28, 21965), (29, 21977), (31, 21989), (32, 22013), (34, 22019), (48, 22100), (51, 22133), (53, 22157), (54, 22163), (64, 22235), (77, 22343), (101, 22661), (116, 22781), (122, 22850), (144, 23081), (157, 23156), (159, 23168), (161, 23177), (166, 23216), (201, 23411), (207, 23438), (208, 23441), (211, 23453),

Gene: Kerberos_34 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for Kerberos_34:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (144, 23930), (183, 24149), (185, 24161), (190, 24191), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: Kimona_28 Start: 20738, Stop: 22444, Start Num: 2

Candidate Starts for Kimona_28:

(Start: 2 @20738 has 1 MA's), (8, 20771), (10, 20786), (21, 20936), (22, 20942), (32, 21053), (36, 21059), (51, 21116), (62, 21185), (66, 21218), (68, 21230), (85, 21389), (116, 21752), (148, 22079), (150, 22100), (153, 22112), (162, 22166), (166, 22190), (183, 22271), (199, 22379), (206, 22409), (214, 22436),

Gene: Kinmap_32 Start: 22357, Stop: 24255, Start Num: 5

Candidate Starts for Kinmap_32:

(1, 22222), (Start: 5 @22357 has 32 MA's), (7, 22363), (18, 22507), (31, 22630), (39, 22696), (43, 22717), (70, 22936), (74, 22978), (82, 23077), (93, 23281), (98, 23362), (100, 23374), (110, 23446), (113, 23470), (118, 23536), (146, 23863), (147, 23878), (198, 24130), (204, 24154), (218, 24244), (219, 24247),

Gene: Koduck_31 Start: 21936, Stop: 23582, Start Num: 5

Candidate Starts for Koduck_31:

(Start: 5 @21936 has 32 MA's), (14, 22056), (17, 22071), (23, 22146), (29, 22194), (31, 22206), (38, 22263), (53, 22374), (54, 22380), (64, 22452), (86, 22671), (95, 22785), (101, 22869), (103, 22875), (108, 22911), (116, 22995), (124, 23073), (135, 23169), (139, 23208), (144, 23295), (156, 23367), (169, 23442), (171, 23454), (177, 23463), (181, 23493), (193, 23562),

Gene: L5_31 Start: 21890, Stop: 23536, Start Num: 5

Candidate Starts for L5_31:

(Start: 5 @21890 has 32 MA's), (14, 22010), (17, 22025), (23, 22100), (29, 22148), (31, 22160), (48, 22271), (53, 22328), (54, 22334), (64, 22406), (86, 22625), (95, 22739), (101, 22823), (103, 22829), (108, 22865), (116, 22949), (124, 23027), (135, 23123), (139, 23162), (144, 23249), (171, 23408), (181, 23447),

Gene: MajorMajor_30 Start: 21646, Stop: 23397, Start Num: 5

Candidate Starts for MajorMajor_30:

(Start: 5 @21646 has 32 MA's), (9, 21667), (14, 21766), (17, 21781), (23, 21856), (31, 21916), (48, 22027), (51, 22060), (53, 22084), (54, 22090), (64, 22162), (72, 22237), (77, 22270), (79, 22300), (101, 22588), (116, 22708), (122, 22777), (144, 23008), (157, 23083), (159, 23095), (161, 23104), (166, 23143), (201, 23338), (207, 23365), (208, 23368), (211, 23380),

Gene: Malec_32 Start: 23029, Stop: 25110, Start Num: 4

Candidate Starts for Malec_32:

(Start: 4 @23029 has 2 MA's), (9, 23053), (13, 23143), (15, 23158), (26, 23257), (34, 23332), (41, 23380), (69, 23569), (73, 23608), (83, 23704), (99, 23953), (111, 24016), (114, 24061), (124, 24163), (138, 24301), (142, 24364), (143, 24394), (158, 24478), (174, 24568), (177, 24577), (179, 24592), (180, 24601), (213, 24775), (223, 24895), (226, 24934), (228, 24970), (229, 24994), (230, 25027), (231, 25096), (232, 25099),

Gene: MissWhite_31 Start: 21856, Stop: 23703, Start Num: 5

Candidate Starts for MissWhite_31:

(Start: 5 @21856 has 32 MA's), (9, 21877), (16, 21985), (28, 22102), (31, 22126), (55, 22306), (67, 22402), (76, 22474), (95, 22711), (101, 22795), (105, 22807), (106, 22828), (113, 22876), (116, 22921), (117, 22927), (118, 22942), (121, 22957), (122, 22990), (125, 23002), (131, 23053), (144, 23221), (149, 23266), (155, 23284), (194, 23512), (200, 23548), (208, 23581),

Gene: Naji_34 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for Naji_34:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (190, 24191), (192, 24206), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: Odin_30 Start: 21523, Stop: 23199, Start Num: 5

Candidate Starts for Odin_30:

(Start: 3 @21517 has 2 MA's), (Start: 5 @21523 has 32 MA's), (14, 21643), (19, 21676), (20, 21679), (22, 21706), (31, 21793), (51, 21880), (66, 21982), (89, 22204), (101, 22390), (116, 22510), (144, 22810), (156, 22885), (160, 22906), (166, 22945), (184, 23035), (201, 23140), (207, 23167), (208, 23170), (211, 23182),

Gene: Ph8s_32 Start: 21442, Stop: 23091, Start Num: 5

Candidate Starts for Ph8s_32:

(Start: 5 @21442 has 32 MA's), (13, 21553), (18, 21589), (28, 21688), (31, 21712), (53, 21880), (54, 21886), (116, 22504), (119, 22531), (125, 22585), (135, 22678), (138, 22708), (144, 22804), (156, 22876), (171, 22963), (177, 22972), (184, 23020),

Gene: Pomar16_34 Start: 22600, Stop: 24453, Start Num: 5

Candidate Starts for Pomar16_34:

(Start: 3 @22594 has 2 MA's), (Start: 5 @22600 has 32 MA's), (14, 22720), (23, 22810), (31, 22870), (32, 22894), (37, 22921), (51, 23014), (53, 23038), (54, 23044), (101, 23551), (112, 23620), (127, 23788), (144, 23971), (190, 24232), (192, 24247), (200, 24301), (203, 24310), (206, 24325), (208, 24334), (216, 24370),

Gene: Quokka_29 Start: 21646, Stop: 23397, Start Num: 5

Candidate Starts for Quokka_29:

(Start: 5 @21646 has 32 MA's), (9, 21667), (14, 21766), (17, 21781), (23, 21856), (31, 21916), (48, 22027), (51, 22060), (53, 22084), (54, 22090), (64, 22162), (72, 22237), (77, 22270), (79, 22300), (101, 22588), (116, 22708), (122, 22777), (144, 23008), (157, 23083), (159, 23095), (161, 23104), (166, 23143), (201, 23338), (207, 23365), (208, 23368), (211, 23380),

Gene: Rahalelujah_30 Start: 22236, Stop: 23978, Start Num: 5

Candidate Starts for Rahalelujah_30:

(Start: 5 @22236 has 32 MA's), (7, 22242), (14, 22359), (19, 22392), (31, 22509), (34, 22539), (42, 22587), (44, 22596), (46, 22599), (59, 22686), (66, 22731), (71, 22758), (88, 22833), (91, 22911), (97,

22977), (110, 23103), (147, 23535), (154, 23580), (175, 23712), (198, 23853), (200, 23865), (209, 23904), (218, 23967),

Gene: Serenity_30 Start: 21771, Stop: 23522, Start Num: 5

Candidate Starts for Serenity_30:

(Start: 5 @21771 has 32 MA's), (9, 21792), (14, 21891), (17, 21906), (23, 21981), (31, 22041), (48, 22152), (51, 22185), (53, 22209), (54, 22215), (64, 22287), (77, 22395), (87, 22512), (101, 22713), (116, 22833), (122, 22902), (144, 23133), (157, 23208), (159, 23220), (161, 23229), (166, 23268), (201, 23463), (207, 23490), (208, 23493), (211, 23505),

Gene: SheaKeira_31 Start: 22351, Stop: 24009, Start Num: 5

Candidate Starts for SheaKeira_31:

(Start: 5 @22351 has 32 MA's), (11, 22453), (19, 22507), (21, 22531), (22, 22537), (30, 22618), (31, 22624), (34, 22654), (42, 22702), (49, 22726), (59, 22801), (97, 23092), (118, 23308), (123, 23362), (133, 23476), (134, 23488), (146, 23635), (147, 23650), (197, 23875), (212, 23938),

Gene: StarStuff_34 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for StarStuff_34:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (144, 23930), (183, 24149), (185, 24161), (190, 24191), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: Sunhee_30 Start: 22065, Stop: 23957, Start Num: 6

Candidate Starts for Sunhee_30:

(6, 22065), (9, 22086), (22, 22248), (24, 22278), (29, 22323), (31, 22335), (57, 22524), (60, 22536), (70, 22638), (92, 22980), (93, 22983), (98, 23064), (106, 23124), (110, 23148), (121, 23253), (123, 23292), (129, 23349), (130, 23352), (146, 23565), (147, 23580), (165, 23700), (218, 23946), (219, 23949),

Gene: Superchunk_30 Start: 21397, Stop: 22950, Start Num: 5

Candidate Starts for Superchunk_30:

(Start: 3 @21391 has 2 MA's), (Start: 5 @21397 has 32 MA's), (14, 21517), (19, 21550), (20, 21553), (22, 21580), (31, 21667), (51, 21754), (66, 21856), (116, 22384), (117, 22390), (121, 22420), (122, 22453), (125, 22465), (135, 22558), (138, 22588), (144, 22684), (156, 22756), (170, 22822), (172, 22834), (182, 22879),

Gene: SwirlSquare_33 Start: 21533, Stop: 23197, Start Num: 5

Candidate Starts for SwirlSquare_33:

(Start: 5 @21533 has 32 MA's), (13, 21644), (18, 21680), (28, 21779), (31, 21803), (53, 21971), (54, 21977), (116, 22598), (125, 22679), (135, 22772), (138, 22802), (144, 22898), (156, 22970), (171, 23057), (184, 23126),

Gene: TipsytheTRex_30 Start: 21878, Stop: 23713, Start Num: 4

Candidate Starts for TipsytheTRex_30:

(Start: 4 @21878 has 2 MA's), (14, 22001), (17, 22016), (19, 22034), (23, 22091), (29, 22139), (31, 22151), (48, 22262), (53, 22319), (54, 22325), (77, 22505), (85, 22589), (89, 22640), (90, 22661), (95, 22727), (101, 22811), (105, 22823), (116, 22931), (125, 23012), (136, 23111), (144, 23231), (180, 23435), (183, 23450), (200, 23561), (210, 23603),

Gene: Toaka_30 Start: 22544, Stop: 24361, Start Num: 5

Candidate Starts for Toaka_30:

(Start: 5 @22544 has 32 MA's), (7, 22550), (12, 22649), (28, 22793), (31, 22817), (81, 23180), (82, 23183), (88, 23216), (91, 23294), (92, 23318), (94, 23336), (97, 23360), (110, 23486), (118, 23576), (132, 23714), (147, 23918), (154, 23963), (156, 23972), (167, 24047), (168, 24050), (218, 24350),

Gene: Tomathan_34 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for Tomathan_34:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (144, 23930), (183, 24149), (185, 24161), (190, 24191), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: Travvers_34 Start: 22559, Stop: 24412, Start Num: 5

Candidate Starts for Travvers_34:

(Start: 3 @22553 has 2 MA's), (Start: 5 @22559 has 32 MA's), (14, 22679), (23, 22769), (31, 22829), (37, 22880), (51, 22973), (53, 22997), (54, 23003), (101, 23510), (112, 23579), (121, 23666), (127, 23747), (190, 24191), (192, 24206), (200, 24260), (206, 24284), (208, 24293), (216, 24329),

Gene: VA6_31 Start: 22715, Stop: 24568, Start Num: 5

Candidate Starts for VA6_31:

(Start: 3 @22709 has 2 MA's), (Start: 5 @22715 has 32 MA's), (14, 22835), (23, 22925), (31, 22985), (32, 23009), (37, 23036), (51, 23129), (53, 23153), (54, 23159), (67, 23261), (101, 23666), (112, 23735), (127, 23903), (138, 23990), (144, 24086), (169, 24233), (190, 24347), (200, 24416), (206, 24440), (215, 24470), (216, 24485),

Gene: VC3_34 Start: 22703, Stop: 24556, Start Num: 5

Candidate Starts for VC3_34:

(Start: 3 @22697 has 2 MA's), (Start: 5 @22703 has 32 MA's), (14, 22823), (23, 22913), (31, 22973), (32, 22997), (37, 23024), (51, 23117), (53, 23141), (54, 23147), (67, 23249), (101, 23654), (112, 23723), (127, 23891), (138, 23978), (144, 24074), (169, 24221), (190, 24335), (200, 24404), (206, 24428), (215, 24458), (216, 24473),

Gene: XianYue_31 Start: 22723, Stop: 24396, Start Num: 3

Candidate Starts for XianYue_31:

(Start: 3 @22723 has 2 MA's), (13, 22840), (14, 22849), (15, 22855), (18, 22876), (21, 22906), (29, 22987), (52, 23155), (57, 23179), (75, 23287), (80, 23353), (103, 23620), (128, 23833), (145, 24019), (151, 24064), (152, 24073), (163, 24124), (164, 24142), (206, 24361), (214, 24388),

Gene: Yecey3_32 Start: 22435, Stop: 24132, Start Num: 5

Candidate Starts for Yecey3_32:

(Start: 5 @22435 has 32 MA's), (11, 22540), (19, 22594), (22, 22624), (28, 22687), (31, 22711), (52, 22789), (56, 22810), (58, 22813), (65, 22864), (67, 22885), (77, 22963), (78, 22966), (101, 23278), (102, 23281), (107, 23314), (108, 23320), (116, 23404), (117, 23410), (118, 23425), (125, 23485), (139, 23617), (144, 23704), (165, 23839), (173, 23866), (187, 23941), (189, 23956), (194, 23992), (198, 24016), (205, 24049), (208, 24061),