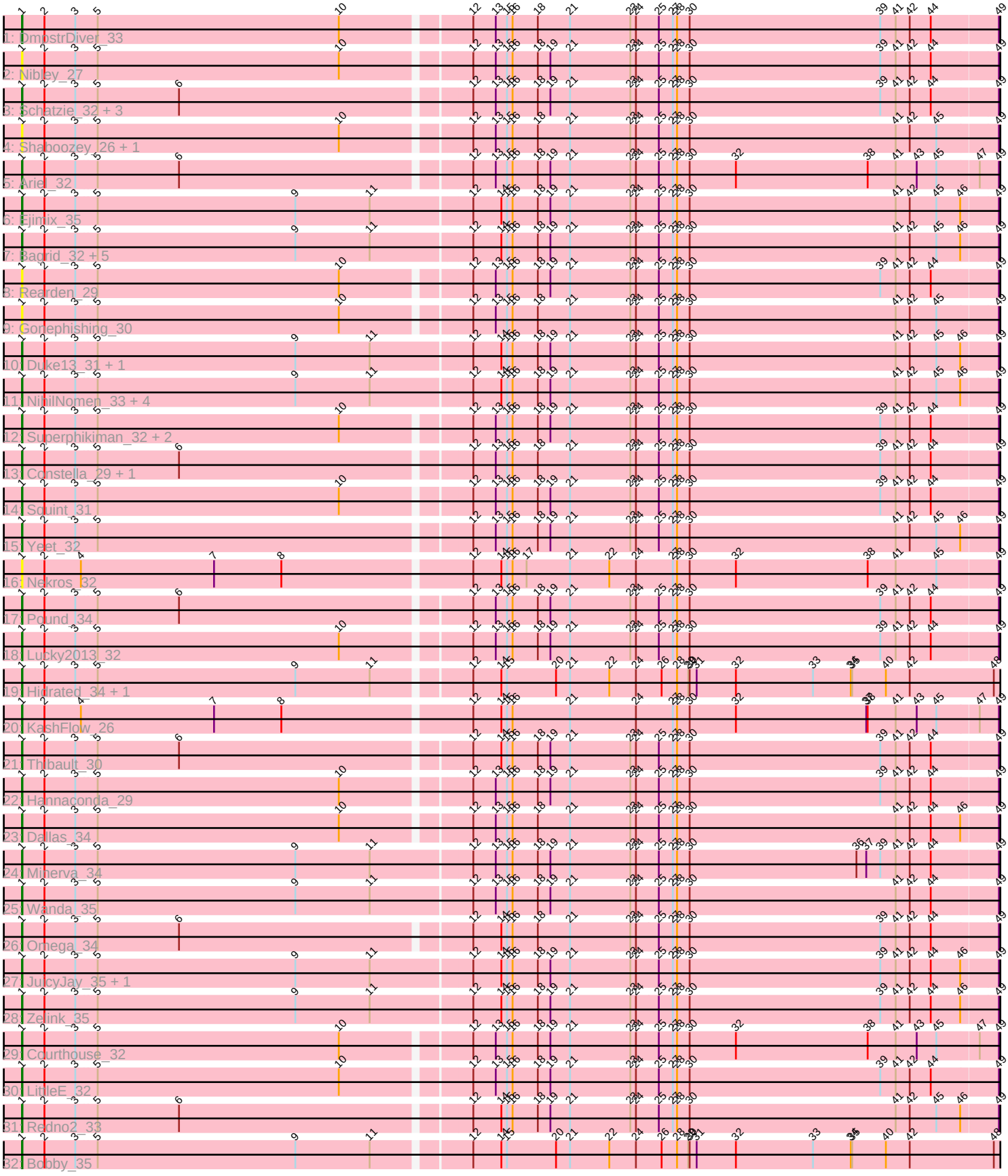
Zoomed Pham 347707



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 347707 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347707 has 51 members, 10 are drafts.

Phages represented in each track:
• Track 1 : DmpstrDiver_33
• Track 2 : Nibley_27
• Track 3 : Schatzie_32, Dove_32, Bombitas_31, Hughesyang_33
• Track 4 : Shaboozey_26, BronnyJames_26
• Track 5 : Ariel_32
• Track 6 : Ejimix_35
• Track 7 : Bagrid_32, Phoebus_34, Halley_34, HokkenD_29, Odette_34, ThreeRngTarjay_33
• Track 8 : Rearden_29
• Track 9 : Gonephishing_30
• Track 10 : Duke13_31, Optimus_32
• Track 11 : NihilNomen_33, EricMillard_34, Kalah2_35, Beem_34, BAKA_31
• Track 12 : Superphikiman_32, MiaZeal_32, Porcelain_31
• Track 13 : Constella_29, Xiaokay_31
• Track 14 : Squint_31
• Track 15 : Yeet_32
• Track 16 : Nekros_32
• Track 17 : Pound_34
• Track 18 : Lucky2013_32
• Track 19 : Hidrated_34, Marleymoo_38
• Track 20 : KashFlow_26
• Track 21 : Thibault_30
• Track 22 : Hannaconda_29
• Track 23 : Dallas_34
• Track 24 : Minerva_34
• Track 25 : Wanda_35
• Track 26 : Omega_34
• Track 27 : JuicyJay_35, Klein_34
• Track 28 : Zelink_35
• Track 29 : Courthouse_32
• Track 30 : LittleE_32
• Track 31 : Redno2_33
• Track 32 : Bobby_35

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

The start number called the most often in the published annotations is 1, it was called in 41 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Ariel_32, BAKA_31, Bagrid_32, Beem_34, Bobby_35, Bombitas_31, BronnyJames_26, Constella_29, Courthouse_32, Dallas_34, DmpstrDiver_33, Dove_32, Duke13_31, Ejimix_35, EricMillard_34, Gonephishing_30, Halley_34, Hannaconda_29, Hidrated_34, HokkenD_29, Hughesyang_33, JuicyJay_35, Kalah2_35, KashFlow_26, Klein_34, LittleE_32, Lucky2013_32, Marleymoo_38, MiaZeal_32, Minerva_34, Nekros_32, Nibley_27, NihilNomen_33, Odette_34, Omega_34, Optimus_32, Phoebus_34, Porcelain_31, Pound_34, Rearden_29, Redno2_33, Schatzie_32, Shaboozey_26, Squint_31, Superphikiman_32, Thibault_30, ThreeRngTarjay_33, Wanda_35, Xiaokay_31, Yeet_32, Zelink_35,

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

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

Summary by start number:

Start 1:
• Found in 51 of 51 (100.0%) of genes in pham
• Manual Annotations of this start: 41 of 41
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ariel_32 (J), BAKA_31 (J), Bagrid_32 (J), Beem_34 (J), Bobby_35 (J), Bombitas_31 (J), BronnyJames_26 (J), Constella_29 (J), Courthouse_32 (J), Dallas_34 (J), DmpstrDiver_33 (J), Dove_32 (J), Duke13_31 (J), Ejimix_35 (J), EricMillard_34 (J), Gonephishing_30 (J), Halley_34 (J), Hannaconda_29 (J), Hidrated_34 (J), HokkenD_29 (J), Hughesyang_33 (J), JuicyJay_35 (J), Kalah2_35 (J), KashFlow_26 (J), Klein_34 (J), LittleE_32 (J), Lucky2013_32 (J), Marleymoo_38 (J), MiaZeal_32 (J), Minerva_34 (J), Nekros_32 (J), Nibley_27 (J), NihilNomen_33 (J), Odette_34 (J), Omega_34 (J), Optimus_32 (J), Phoebus_34 (J), Porcelain_31 (J), Pound_34 (J), Rearden_29 (J), Redno2_33 (J), Schatzie_32 (J), Shaboozey_26 (J), Squint_31 (J), Superphikiman_32 (J), Thibault_30 (J), ThreeRngTarjay_33 (J), Wanda_35 (J), Xiaokay_31 (J), Yeet_32 (J), Zelink_35 (J),

Summary by clusters:

There is one cluster represented in this pham: J

Info for manual annotations of cluster J:
•Start number 1 was manually annotated 41 times for cluster J.

Gene Information:

Gene: Ariel_32 Start: 17742, Stop: 22595, Start Num: 1
Candidate Starts for Ariel_32:

(Start: 1 @17742 has 41 MA's), (2, 17790), (3, 17856), (5, 17901), (6, 18075), (12, 18666), (13, 18714), (15, 18738), (16, 18750), (18, 18804), (19, 18831), (21, 18873), (23, 19002), (24, 19014), (25, 19062), (27, 19092), (28, 19101), (30, 19128), (32, 19227), (38, 19509), (41, 19569), (43, 19614), (45, 19656), (47, 19743), (49, 19782), (50, 19830), (57, 20094), (58, 20178), (59, 20199), (61, 20358), (62, 20514), (65, 20583), (67, 20640), (69, 20691), (72, 20814), (85, 20997), (86, 21006), (89, 21048), (95, 21111), (96, 21204), (97, 21216), (101, 21285), (104, 21327), (106, 21363), (107, 21372), (109, 21438), (110, 21447), (117, 21783), (121, 21837), (122, 21921), (123, 21999), (127, 22143), (128, 22167), (129, 22185), (130, 22227), (131, 22233), (134, 22299), (136, 22338), (137, 22497), (139, 22548), (140, 22566),

Gene: BAKA_31 Start: 19829, Stop: 24769, Start Num: 1
Candidate Starts for BAKA_31:
(Start: 1 @19829 has 41 MA's), (2, 19877), (3, 19943), (5, 19988), (9, 20411), (11, 20570), (12, 20774), (14, 20834), (15, 20846), (16, 20858), (18, 20912), (19, 20939), (21, 20981), (23, 21110), (24, 21122), (25, 21170), (27, 21200), (28, 21209), (30, 21236), (41, 21677), (42, 21707), (45, 21764), (46, 21815), (49, 21890), (50, 21938), (57, 22196), (58, 22280), (59, 22301), (60, 22439), (61, 22460), (62, 22616), (63, 22619), (64, 22676), (66, 22739), (67, 22742), (68, 22787), (69, 22793), (70, 22796), (72, 22934), (75, 23003), (77, 23036), (86, 23126), (101, 23411), (102, 23417), (103, 23441), (104, 23450), (106, 23489), (107, 23498), (108, 23504), (109, 23564), (110, 23573), (111, 23591), (117, 23897), (118, 23924), (119, 23954), (124, 24197), (126, 24227), (128, 24338), (129, 24356), (130, 24398), (131, 24404), (133, 24467), (135, 24485), (136, 24509), (138, 24719),

Gene: Bagrid_32 Start: 19618, Stop: 24537, Start Num: 1
Candidate Starts for Bagrid_32:
(Start: 1 @19618 has 41 MA's), (2, 19666), (3, 19732), (5, 19777), (9, 20200), (11, 20359), (12, 20563), (14, 20623), (15, 20635), (16, 20647), (18, 20701), (19, 20728), (21, 20770), (23, 20899), (24, 20911), (25, 20959), (27, 20989), (28, 20998), (30, 21025), (41, 21466), (42, 21496), (45, 21553), (46, 21604), (49, 21679), (50, 21727), (57, 21985), (58, 22069), (59, 22090), (60, 22228), (61, 22249), (62, 22405), (63, 22408), (64, 22465), (66, 22528), (67, 22531), (68, 22576), (69, 22582), (70, 22585), (72, 22702), (75, 22771), (76, 22786), (77, 22804), (86, 22894), (101, 23179), (102, 23185), (103, 23209), (104, 23218), (106, 23257), (107, 23266), (108, 23272), (109, 23332), (110, 23341), (111, 23359), (117, 23665), (118, 23692), (119, 23722), (124, 23965), (126, 23995), (128, 24106), (129, 24124), (130, 24166), (131, 24172), (133, 24235), (135, 24253), (136, 24277), (138, 24487),

Gene: Beem_34 Start: 20184, Stop: 25103, Start Num: 1
Candidate Starts for Beem_34:
(Start: 1 @20184 has 41 MA's), (2, 20232), (3, 20298), (5, 20343), (9, 20766), (11, 20925), (12, 21129), (14, 21189), (15, 21201), (16, 21213), (18, 21267), (19, 21294), (21, 21336), (23, 21465), (24, 21477), (25, 21525), (27, 21555), (28, 21564), (30, 21591), (41, 22032), (42, 22062), (45, 22119), (46, 22170), (49, 22245), (50, 22293), (57, 22551), (58, 22635), (59, 22656), (60, 22794), (61, 22815), (62, 22971), (63, 22974), (64, 23031), (66, 23094), (67, 23097), (68, 23142), (69, 23148), (70, 23151), (72, 23268), (75, 23337), (77, 23370), (86, 23460), (101, 23745), (102, 23751), (103, 23775), (104, 23784), (106, 23823), (107, 23832), (108, 23838), (109, 23898), (110, 23907), (111, 23925), (117, 24231), (118, 24258), (119, 24288), (124, 24531), (126, 24561), (128, 24672), (129, 24690), (130, 24732), (131, 24738), (133, 24801), (135, 24819), (136, 24843), (138, 25053),

Gene: Bobby_35 Start: 20136, Stop: 25031, Start Num: 1
Candidate Starts for Bobby_35:
(Start: 1 @20136 has 41 MA's), (2, 20184), (3, 20250), (5, 20295), (9, 20718), (11, 20877), (12, 21063), (14, 21123), (15, 21135), (20, 21240), (21, 21270), (22, 21354), (24, 21411), (26, 21465), (28, 21498), (29, 21522), (30, 21525), (31, 21540), (32, 21624), (33, 21789), (34, 21870), (35, 21873), (40, 21945), (42, 21996), (48, 22173), (51, 22278), (55, 22356), (56, 22461), (58, 22581), (59, 22602), (60, 22740), (61, 22761), (62, 22917), (63, 22920), (64, 22977), (66, 23040), (67, 23043), (68, 23088), (69, 23094),

(70, 23097), (72, 23193), (75, 23262), (77, 23295), (86, 23385), (102, 23676), (103, 23700), (104, 23709), (106, 23748), (107, 23757), (108, 23763), (109, 23823), (110, 23832), (111, 23850), (117, 24156), (118, 24183), (124, 24456), (126, 24486), (128, 24597), (129, 24615), (130, 24657), (131, 24663), (133, 24726), (135, 24744), (136, 24768), (138, 24981),

Gene: Bombitas_31 Start: 19493, Stop: 24403, Start Num: 1
Candidate Starts for Bombitas_31:
(Start: 1 @19493 has 41 MA's), (2, 19541), (3, 19607), (5, 19652), (6, 19826), (12, 20417), (13, 20465), (15, 20489), (16, 20501), (18, 20555), (19, 20582), (21, 20624), (23, 20753), (24, 20765), (25, 20813), (27, 20843), (28, 20852), (30, 20879), (39, 21287), (41, 21320), (42, 21350), (44, 21395), (49, 21533), (50, 21581), (52, 21665), (57, 21845), (58, 21932), (60, 22091), (61, 22112), (62, 22268), (63, 22271), (64, 22328), (66, 22391), (67, 22394), (68, 22439), (69, 22445), (70, 22448), (72, 22565), (75, 22634), (77, 22667), (86, 22757), (102, 23048), (103, 23072), (104, 23081), (106, 23120), (107, 23129), (108, 23135), (109, 23195), (110, 23204), (111, 23222), (117, 23528), (118, 23555), (124, 23828), (126, 23858), (128, 23969), (129, 23987), (130, 24029), (131, 24035), (133, 24098), (135, 24116), (136, 24140), (138, 24353),

Gene: BronnyJames_26 Start: 16375, Stop: 21180, Start Num: 1
Candidate Starts for BronnyJames_26:
(Start: 1 @16375 has 41 MA's), (2, 16423), (3, 16489), (5, 16534), (10, 17050), (12, 17302), (13, 17350), (15, 17374), (16, 17386), (18, 17440), (21, 17509), (23, 17638), (24, 17650), (25, 17698), (27, 17728), (28, 17737), (30, 17764), (41, 18205), (42, 18235), (45, 18292), (49, 18418), (50, 18466), (57, 18730), (58, 18814), (59, 18835), (61, 18994), (62, 19150), (65, 19219), (67, 19276), (69, 19327), (71, 19408), (73, 19447), (74, 19492), (77, 19525), (81, 19582), (83, 19585), (94, 19705), (101, 19858), (104, 19900), (107, 19945), (110, 20020), (112, 20077), (114, 20167), (115, 20299), (116, 20314), (117, 20356), (118, 20383), (120, 20395), (121, 20422), (122, 20506), (123, 20584), (128, 20752), (129, 20770), (130, 20812), (131, 20818), (133, 20881), (134, 20884), (135, 20899), (136, 20923), (137, 21082), (139, 21133), (140, 21151),

Gene: Constella_29 Start: 19007, Stop: 23890, Start Num: 1
Candidate Starts for Constella_29:
(Start: 1 @19007 has 41 MA's), (2, 19055), (3, 19121), (5, 19166), (6, 19340), (12, 19928), (13, 19976), (15, 20000), (16, 20012), (18, 20066), (21, 20135), (23, 20264), (24, 20276), (25, 20324), (27, 20354), (28, 20363), (30, 20390), (39, 20798), (41, 20831), (42, 20861), (44, 20906), (49, 21044), (50, 21092), (53, 21182), (57, 21338), (58, 21419), (61, 21599), (62, 21755), (64, 21815), (66, 21878), (67, 21881), (68, 21926), (69, 21932), (70, 21935), (72, 22052), (75, 22121), (77, 22154), (86, 22244), (102, 22535), (103, 22559), (104, 22568), (106, 22607), (107, 22616), (108, 22622), (109, 22682), (110, 22691), (111, 22709), (117, 23015), (118, 23042), (119, 23072), (124, 23315), (126, 23345), (128, 23456), (129, 23474), (130, 23516), (131, 23522), (135, 23603), (136, 23627), (138, 23840),

Gene: Courthouse_32 Start: 18146, Stop: 22999, Start Num: 1
Candidate Starts for Courthouse_32:
(Start: 1 @18146 has 41 MA's), (2, 18194), (3, 18260), (5, 18305), (10, 18821), (12, 19070), (13, 19118), (15, 19142), (16, 19154), (18, 19208), (19, 19235), (21, 19277), (23, 19406), (24, 19418), (25, 19466), (27, 19496), (28, 19505), (30, 19532), (32, 19631), (38, 19913), (41, 19973), (43, 20018), (45, 20060), (47, 20147), (49, 20186), (50, 20234), (57, 20498), (58, 20582), (59, 20603), (61, 20762), (62, 20918), (65, 20987), (67, 21044), (69, 21095), (72, 21218), (85, 21401), (86, 21410), (89, 21452), (95, 21515), (96, 21608), (97, 21620), (101, 21689), (104, 21731), (106, 21767), (107, 21776), (109, 21842), (110, 21851), (117, 22187), (121, 22241), (122, 22325), (123, 22403), (127, 22547), (128, 22571), (129, 22589), (130, 22631), (131, 22637), (134, 22703), (136, 22742), (137, 22901), (139, 22952), (140, 22970),

Gene: Dallas_34 Start: 19724, Stop: 24628, Start Num: 1

Candidate Starts for Dallas_34:
(Start: 1 @19724 has 41 MA's), (2, 19772), (3, 19838), (5, 19883), (10, 20399), (12, 20651), (13, 20699), (15, 20723), (16, 20735), (18, 20789), (21, 20858), (23, 20987), (24, 20999), (25, 21047), (27, 21077), (28, 21086), (30, 21113), (41, 21554), (42, 21584), (44, 21629), (46, 21692), (49, 21767), (50, 21815), (57, 22073), (58, 22157), (60, 22316), (61, 22337), (62, 22493), (63, 22496), (64, 22553), (66, 22616), (67, 22619), (68, 22664), (69, 22670), (70, 22673), (72, 22790), (75, 22859), (77, 22892), (86, 22982), (102, 23273), (103, 23297), (104, 23306), (106, 23345), (107, 23354), (108, 23360), (109, 23420), (110, 23429), (111, 23447), (117, 23753), (118, 23780), (124, 24053), (126, 24083), (128, 24194), (129, 24212), (130, 24254), (131, 24260), (133, 24323), (135, 24341), (136, 24365), (138, 24578),

Gene: DmpstrDiver_33 Start: 20360, Stop: 25270, Start Num: 1
Candidate Starts for DmpstrDiver_33:
(Start: 1 @20360 has 41 MA's), (2, 20408), (3, 20474), (5, 20519), (10, 21035), (12, 21281), (13, 21329), (15, 21353), (16, 21365), (18, 21419), (21, 21488), (23, 21617), (24, 21629), (25, 21677), (27, 21707), (28, 21716), (30, 21743), (39, 22151), (41, 22184), (42, 22214), (44, 22259), (49, 22397), (50, 22445), (57, 22703), (58, 22790), (59, 22811), (60, 22949), (61, 22970), (62, 23126), (63, 23129), (64, 23186), (66, 23249), (67, 23252), (68, 23297), (69, 23303), (70, 23306), (72, 23423), (75, 23492), (77, 23525), (86, 23615), (102, 23906), (103, 23930), (104, 23939), (106, 23978), (107, 23987), (108, 23993), (109, 24053), (110, 24062), (111, 24080), (117, 24398), (118, 24425), (119, 24455), (124, 24698), (126, 24728), (128, 24839), (129, 24857), (130, 24899), (131, 24905), (133, 24968), (135, 24986), (136, 25010), (138, 25220),

Gene: Dove_32 Start: 19492, Stop: 24402, Start Num: 1
Candidate Starts for Dove_32:
(Start: 1 @19492 has 41 MA's), (2, 19540), (3, 19606), (5, 19651), (6, 19825), (12, 20416), (13, 20464), (15, 20488), (16, 20500), (18, 20554), (19, 20581), (21, 20623), (23, 20752), (24, 20764), (25, 20812), (27, 20842), (28, 20851), (30, 20878), (39, 21286), (41, 21319), (42, 21349), (44, 21394), (49, 21532), (50, 21580), (52, 21664), (57, 21844), (58, 21931), (60, 22090), (61, 22111), (62, 22267), (63, 22270), (64, 22327), (66, 22390), (67, 22393), (68, 22438), (69, 22444), (70, 22447), (72, 22564), (75, 22633), (77, 22666), (86, 22756), (102, 23047), (103, 23071), (104, 23080), (106, 23119), (107, 23128), (108, 23134), (109, 23194), (110, 23203), (111, 23221), (117, 23527), (118, 23554), (124, 23827), (126, 23857), (128, 23968), (129, 23986), (130, 24028), (131, 24034), (133, 24097), (135, 24115), (136, 24139), (138, 24352),

Gene: Duke13_31 Start: 19758, Stop: 24668, Start Num: 1
Candidate Starts for Duke13_31:
(Start: 1 @19758 has 41 MA's), (2, 19806), (3, 19872), (5, 19917), (9, 20340), (11, 20499), (12, 20703), (14, 20763), (15, 20775), (16, 20787), (18, 20841), (19, 20868), (21, 20910), (23, 21039), (24, 21051), (25, 21099), (27, 21129), (28, 21138), (30, 21165), (41, 21606), (42, 21636), (45, 21693), (46, 21744), (49, 21819), (50, 21867), (57, 22125), (58, 22209), (59, 22230), (60, 22368), (61, 22389), (62, 22545), (63, 22548), (64, 22605), (66, 22668), (67, 22671), (68, 22716), (69, 22722), (70, 22725), (72, 22821), (75, 22890), (77, 22923), (86, 23013), (102, 23304), (103, 23328), (104, 23337), (106, 23376), (107, 23385), (108, 23391), (109, 23451), (110, 23460), (111, 23478), (117, 23796), (118, 23823), (119, 23853), (124, 24096), (126, 24126), (128, 24237), (129, 24255), (130, 24297), (131, 24303), (133, 24366), (135, 24384), (136, 24408), (138, 24618),

Gene: Ejimix_35 Start: 20934, Stop: 25856, Start Num: 1
Candidate Starts for Ejimix_35:
(Start: 1 @20934 has 41 MA's), (2, 20982), (3, 21048), (5, 21093), (9, 21516), (11, 21675), (12, 21879), (14, 21939), (15, 21951), (16, 21963), (18, 22017), (19, 22044), (21, 22086), (23, 22215), (24, 22227), (25, 22275), (27, 22305), (28, 22314), (30, 22341), (41, 22782), (42, 22812), (45, 22869), (46, 22920), (49, 22995), (50, 23043), (57, 23301), (58, 23385), (59, 23406), (60, 23544), (61, 23565), (62, 23721),

(63, 23724), (64, 23781), (66, 23844), (67, 23847), (68, 23892), (69, 23898), (70, 23901), (72, 24018), (75, 24087), (76, 24102), (77, 24120), (86, 24210), (101, 24495), (102, 24501), (103, 24525), (104, 24534), (106, 24573), (107, 24582), (108, 24588), (109, 24648), (110, 24657), (111, 24675), (117, 24981), (118, 25008), (119, 25038), (124, 25281), (126, 25311), (128, 25422), (129, 25440), (130, 25482), (131, 25488), (135, 25569), (136, 25593), (138, 25806),

Gene: EricMillard_34 Start: 20470, Stop: 25389, Start Num: 1
Candidate Starts for EricMillard_34:
(Start: 1 @20470 has 41 MA's), (2, 20518), (3, 20584), (5, 20629), (9, 21052), (11, 21211), (12, 21415), (14, 21475), (15, 21487), (16, 21499), (18, 21553), (19, 21580), (21, 21622), (23, 21751), (24, 21763), (25, 21811), (27, 21841), (28, 21850), (30, 21877), (41, 22318), (42, 22348), (45, 22405), (46, 22456), (49, 22531), (50, 22579), (57, 22837), (58, 22921), (59, 22942), (60, 23080), (61, 23101), (62, 23257), (63, 23260), (64, 23317), (66, 23380), (67, 23383), (68, 23428), (69, 23434), (70, 23437), (72, 23554), (75, 23623), (77, 23656), (86, 23746), (101, 24031), (102, 24037), (103, 24061), (104, 24070), (106, 24109), (107, 24118), (108, 24124), (109, 24184), (110, 24193), (111, 24211), (117, 24517), (118, 24544), (119, 24574), (124, 24817), (126, 24847), (128, 24958), (129, 24976), (130, 25018), (131, 25024), (133, 25087), (135, 25105), (136, 25129), (138, 25339),

Gene: Gonephishing_30 Start: 18318, Stop: 23150, Start Num: 1
Candidate Starts for Gonephishing_30:
(Start: 1 @18318 has 41 MA's), (2, 18366), (3, 18432), (5, 18477), (10, 18993), (12, 19245), (13, 19293), (15, 19317), (16, 19329), (18, 19383), (21, 19452), (23, 19581), (24, 19593), (25, 19641), (27, 19671), (28, 19680), (30, 19707), (41, 20148), (42, 20178), (45, 20235), (49, 20361), (50, 20409), (58, 20748), (61, 20928), (62, 21084), (65, 21153), (67, 21210), (69, 21261), (78, 21513), (79, 21516), (82, 21546), (88, 21600), (92, 21645), (100, 21828), (101, 21855), (109, 22017), (110, 22026), (117, 22338), (122, 22476), (123, 22554), (128, 22722), (129, 22740), (130, 22782), (131, 22788), (133, 22851), (134, 22854), (135, 22869), (136, 22893), (137, 23052), (139, 23103), (140, 23121),

Gene: Halley_34 Start: 20183, Stop: 25102, Start Num: 1
Candidate Starts for Halley_34:
(Start: 1 @20183 has 41 MA's), (2, 20231), (3, 20297), (5, 20342), (9, 20765), (11, 20924), (12, 21128), (14, 21188), (15, 21200), (16, 21212), (18, 21266), (19, 21293), (21, 21335), (23, 21464), (24, 21476), (25, 21524), (27, 21554), (28, 21563), (30, 21590), (41, 22031), (42, 22061), (45, 22118), (46, 22169), (49, 22244), (50, 22292), (57, 22550), (58, 22634), (59, 22655), (60, 22793), (61, 22814), (62, 22970), (63, 22973), (64, 23030), (66, 23093), (67, 23096), (68, 23141), (69, 23147), (70, 23150), (72, 23267), (75, 23336), (76, 23351), (77, 23369), (86, 23459), (101, 23744), (102, 23750), (103, 23774), (104, 23783), (106, 23822), (107, 23831), (108, 23837), (109, 23897), (110, 23906), (111, 23924), (117, 24230), (118, 24257), (119, 24287), (124, 24530), (126, 24560), (128, 24671), (129, 24689), (130, 24731), (131, 24737), (133, 24800), (135, 24818), (136, 24842), (138, 25052),

Gene: Hannaconda_29 Start: 16824, Stop: 21635, Start Num: 1
Candidate Starts for Hannaconda_29:
(Start: 1 @16824 has 41 MA's), (2, 16872), (3, 16938), (5, 16983), (10, 17499), (12, 17748), (13, 17796), (15, 17820), (16, 17832), (18, 17886), (19, 17913), (21, 17955), (23, 18084), (24, 18096), (25, 18144), (27, 18174), (28, 18183), (30, 18210), (39, 18618), (41, 18651), (42, 18681), (44, 18726), (49, 18864), (50, 18912), (57, 19170), (58, 19257), (59, 19278), (61, 19437), (62, 19593), (65, 19662), (67, 19719), (69, 19770), (71, 19851), (73, 19890), (74, 19935), (77, 19968), (81, 20025), (83, 20028), (94, 20148), (101, 20301), (104, 20343), (107, 20388), (110, 20463), (112, 20520), (114, 20610), (115, 20742), (116, 20757), (117, 20799), (118, 20826), (120, 20838), (121, 20865), (122, 20949), (123, 21027), (128, 21195), (129, 21213), (130, 21267), (131, 21273), (133, 21336), (134, 21339), (135, 21354), (136, 21378), (137, 21537), (139, 21588), (140, 21606),

Gene: Hidrated_34 Start: 21629, Stop: 26497, Start Num: 1

Candidate Starts for Hidrated_34:
(Start: 1 @21629 has 41 MA's), (2, 21677), (3, 21743), (5, 21788), (9, 22211), (11, 22370), (12, 22556), (14, 22616), (15, 22628), (20, 22733), (21, 22763), (22, 22847), (24, 22904), (26, 22958), (28, 22991), (29, 23015), (30, 23018), (31, 23033), (32, 23117), (33, 23282), (34, 23363), (35, 23366), (40, 23438), (42, 23489), (48, 23666), (51, 23771), (55, 23849), (56, 23954), (58, 24074), (61, 24254), (62, 24410), (64, 24470), (67, 24536), (68, 24581), (69, 24587), (70, 24590), (80, 24815), (84, 24845), (87, 24872), (90, 24899), (91, 24923), (93, 24944), (98, 25088), (99, 25103), (100, 25115), (101, 25142), (102, 25148), (109, 25289), (110, 25298), (114, 25433), (117, 25622), (118, 25649), (119, 25679), (124, 25922), (125, 25940), (126, 25952), (128, 26063), (129, 26081), (130, 26123), (131, 26129), (133, 26192), (135, 26210), (136, 26234), (138, 26447),

Gene: HokkenD_29 Start: 19753, Stop: 24651, Start Num: 1
Candidate Starts for HokkenD_29:
(Start: 1 @19753 has 41 MA's), (2, 19801), (3, 19867), (5, 19912), (9, 20335), (11, 20494), (12, 20698), (14, 20758), (15, 20770), (16, 20782), (18, 20836), (19, 20863), (21, 20905), (23, 21034), (24, 21046), (25, 21094), (27, 21124), (28, 21133), (30, 21160), (41, 21601), (42, 21631), (45, 21688), (46, 21739), (49, 21814), (50, 21862), (57, 22120), (58, 22204), (59, 22225), (60, 22363), (61, 22384), (62, 22540), (63, 22543), (64, 22600), (66, 22663), (67, 22666), (68, 22711), (69, 22717), (70, 22720), (72, 22816), (75, 22885), (76, 22900), (77, 22918), (86, 23008), (101, 23293), (102, 23299), (103, 23323), (104, 23332), (106, 23371), (107, 23380), (108, 23386), (109, 23446), (110, 23455), (111, 23473), (117, 23779), (118, 23806), (119, 23836), (124, 24079), (126, 24109), (128, 24220), (129, 24238), (130, 24280), (131, 24286), (133, 24349), (135, 24367), (136, 24391), (138, 24601),

Gene: Hughesyang_33 Start: 20365, Stop: 25275, Start Num: 1
Candidate Starts for Hughesyang_33:
(Start: 1 @20365 has 41 MA's), (2, 20413), (3, 20479), (5, 20524), (6, 20698), (12, 21289), (13, 21337), (15, 21361), (16, 21373), (18, 21427), (19, 21454), (21, 21496), (23, 21625), (24, 21637), (25, 21685), (27, 21715), (28, 21724), (30, 21751), (39, 22159), (41, 22192), (42, 22222), (44, 22267), (49, 22405), (50, 22453), (52, 22537), (57, 22717), (58, 22804), (60, 22963), (61, 22984), (62, 23140), (63, 23143), (64, 23200), (66, 23263), (67, 23266), (68, 23311), (69, 23317), (70, 23320), (72, 23437), (75, 23506), (77, 23539), (86, 23629), (102, 23920), (103, 23944), (104, 23953), (106, 23992), (107, 24001), (108, 24007), (109, 24067), (110, 24076), (111, 24094), (117, 24400), (118, 24427), (124, 24700), (126, 24730), (128, 24841), (129, 24859), (130, 24901), (131, 24907), (133, 24970), (135, 24988), (136, 25012), (138, 25225),

Gene: JuicyJay_35 Start: 21017, Stop: 25939, Start Num: 1
Candidate Starts for JuicyJay_35:
(Start: 1 @21017 has 41 MA's), (2, 21065), (3, 21131), (5, 21176), (9, 21599), (11, 21758), (12, 21962), (14, 22022), (15, 22034), (16, 22046), (18, 22100), (19, 22127), (21, 22169), (23, 22298), (24, 22310), (25, 22358), (27, 22388), (28, 22397), (30, 22424), (39, 22832), (41, 22865), (42, 22895), (44, 22940), (46, 23003), (49, 23078), (50, 23126), (57, 23384), (58, 23468), (59, 23489), (60, 23627), (61, 23648), (62, 23804), (63, 23807), (64, 23864), (66, 23927), (67, 23930), (68, 23975), (69, 23981), (70, 23984), (72, 24101), (75, 24170), (77, 24203), (86, 24293), (101, 24578), (102, 24584), (103, 24608), (104, 24617), (106, 24656), (107, 24665), (108, 24671), (109, 24731), (110, 24740), (111, 24758), (117, 25064), (118, 25091), (119, 25121), (124, 25364), (126, 25394), (128, 25505), (129, 25523), (130, 25565), (131, 25571), (133, 25634), (135, 25652), (136, 25676), (138, 25889),

Gene: Kalah2_35 Start: 20785, Stop: 25704, Start Num: 1
Candidate Starts for Kalah2_35:
(Start: 1 @20785 has 41 MA's), (2, 20833), (3, 20899), (5, 20944), (9, 21367), (11, 21526), (12, 21730), (14, 21790), (15, 21802), (16, 21814), (18, 21868), (19, 21895), (21, 21937), (23, 22066), (24, 22078), (25, 22126), (27, 22156), (28, 22165), (30, 22192), (41, 22633), (42, 22663), (45, 22720), (46, 22771), (49, 22846), (50, 22894), (57, 23152), (58, 23236), (59, 23257), (60, 23395), (61, 23416), (62, 23572),

(63, 23575), (64, 23632), (66, 23695), (67, 23698), (68, 23743), (69, 23749), (70, 23752), (72, 23869), (75, 23938), (77, 23971), (86, 24061), (101, 24346), (102, 24352), (103, 24376), (104, 24385), (106, 24424), (107, 24433), (108, 24439), (109, 24499), (110, 24508), (111, 24526), (117, 24832), (118, 24859), (119, 24889), (124, 25132), (126, 25162), (128, 25273), (129, 25291), (130, 25333), (131, 25339), (133, 25402), (135, 25420), (136, 25444), (138, 25654),

Gene: KashFlow_26 Start: 16391, Stop: 21265, Start Num: 1
Candidate Starts for KashFlow_26:
(Start: 1 @16391 has 41 MA's), (2, 16439), (4, 16517), (7, 16802), (8, 16946), (12, 17336), (14, 17396), (15, 17408), (16, 17420), (21, 17543), (24, 17684), (27, 17762), (28, 17771), (30, 17798), (32, 17897), (37, 18176), (38, 18179), (41, 18239), (43, 18284), (45, 18326), (47, 18413), (49, 18452), (50, 18500), (57, 18764), (58, 18848), (59, 18869), (61, 19028), (62, 19184), (67, 19310), (69, 19361), (72, 19484), (85, 19667), (86, 19676), (89, 19718), (95, 19781), (96, 19874), (97, 19886), (101, 19955), (104, 19997), (106, 20033), (107, 20042), (109, 20108), (110, 20117), (114, 20264), (117, 20453), (121, 20507), (122, 20591), (123, 20669), (128, 20837), (129, 20855), (130, 20897), (131, 20903), (133, 20966), (134, 20969), (135, 20984), (136, 21008), (137, 21167), (139, 21218), (140, 21236),

Gene: Klein_34 Start: 19763, Stop: 24673, Start Num: 1
Candidate Starts for Klein_34:
(Start: 1 @19763 has 41 MA's), (2, 19811), (3, 19877), (5, 19922), (9, 20345), (11, 20504), (12, 20708), (14, 20768), (15, 20780), (16, 20792), (18, 20846), (19, 20873), (21, 20915), (23, 21044), (24, 21056), (25, 21104), (27, 21134), (28, 21143), (30, 21170), (39, 21578), (41, 21611), (42, 21641), (44, 21686), (46, 21749), (49, 21824), (50, 21872), (57, 22130), (58, 22214), (59, 22235), (60, 22373), (61, 22394), (62, 22550), (63, 22553), (64, 22610), (66, 22673), (67, 22676), (68, 22721), (69, 22727), (70, 22730), (72, 22826), (75, 22895), (77, 22928), (86, 23018), (101, 23303), (102, 23309), (103, 23333), (104, 23342), (106, 23381), (107, 23390), (108, 23396), (109, 23456), (110, 23465), (111, 23483), (117, 23801), (118, 23828), (119, 23858), (124, 24101), (126, 24131), (128, 24242), (129, 24260), (130, 24302), (131, 24308), (133, 24371), (135, 24389), (136, 24413), (138, 24623),

Gene: LittleE_32 Start: 19529, Stop: 24361, Start Num: 1
Candidate Starts for LittleE_32:
(Start: 1 @19529 has 41 MA's), (2, 19577), (3, 19643), (5, 19688), (10, 20204), (12, 20453), (13, 20501), (15, 20525), (16, 20537), (18, 20591), (19, 20618), (21, 20660), (23, 20789), (24, 20801), (25, 20849), (27, 20879), (28, 20888), (30, 20915), (39, 21323), (41, 21356), (42, 21386), (44, 21431), (49, 21569), (50, 21617), (57, 21875), (58, 21959), (60, 22118), (61, 22139), (62, 22295), (64, 22355), (67, 22421), (69, 22472), (78, 22724), (79, 22727), (82, 22757), (88, 22811), (92, 22856), (100, 23039), (101, 23066), (109, 23228), (110, 23237), (117, 23549), (122, 23687), (123, 23765), (128, 23933), (129, 23951), (130, 23993), (132, 24005), (133, 24062), (134, 24065), (135, 24080), (136, 24104), (137, 24263), (139, 24314), (140, 24332),

Gene: Lucky2013_32 Start: 18272, Stop: 23128, Start Num: 1
Candidate Starts for Lucky2013_32:
(Start: 1 @18272 has 41 MA's), (2, 18320), (3, 18386), (5, 18431), (10, 18947), (12, 19196), (13, 19244), (15, 19268), (16, 19280), (18, 19334), (19, 19361), (21, 19403), (23, 19532), (24, 19544), (25, 19592), (27, 19622), (28, 19631), (30, 19658), (39, 20066), (41, 20099), (42, 20129), (44, 20174), (49, 20312), (50, 20360), (57, 20618), (58, 20705), (59, 20726), (61, 20885), (62, 21041), (65, 21110), (67, 21167), (69, 21218), (72, 21341), (77, 21443), (85, 21524), (86, 21533), (89, 21575), (95, 21641), (96, 21734), (97, 21746), (101, 21818), (104, 21860), (107, 21905), (109, 21971), (110, 21980), (113, 22088), (116, 22262), (117, 22304), (118, 22331), (120, 22343), (121, 22370), (122, 22454), (123, 22532), (128, 22700), (129, 22718), (130, 22760), (131, 22766), (134, 22832), (136, 22871), (137, 23030), (139, 23081), (140, 23099),

Gene: Marleymoo_38 Start: 22174, Stop: 27042, Start Num: 1

Candidate Starts for Marleymoo_38:
(Start: 1 @22174 has 41 MA's), (2, 22222), (3, 22288), (5, 22333), (9, 22756), (11, 22915), (12, 23101), (14, 23161), (15, 23173), (20, 23278), (21, 23308), (22, 23392), (24, 23449), (26, 23503), (28, 23536), (29, 23560), (30, 23563), (31, 23578), (32, 23662), (33, 23827), (34, 23908), (35, 23911), (40, 23983), (42, 24034), (48, 24211), (51, 24316), (55, 24394), (56, 24499), (58, 24619), (61, 24799), (62, 24955), (64, 25015), (67, 25081), (68, 25126), (69, 25132), (70, 25135), (80, 25360), (84, 25390), (87, 25417), (90, 25444), (91, 25468), (93, 25489), (98, 25633), (99, 25648), (100, 25660), (101, 25687), (102, 25693), (109, 25834), (110, 25843), (114, 25978), (117, 26167), (118, 26194), (119, 26224), (124, 26467), (125, 26485), (126, 26497), (128, 26608), (129, 26626), (130, 26668), (131, 26674), (133, 26737), (135, 26755), (136, 26779), (138, 26992),

Gene: MiaZeal_32 Start: 17964, Stop: 22811, Start Num: 1
Candidate Starts for MiaZeal_32:
(Start: 1 @17964 has 41 MA's), (2, 18012), (3, 18078), (5, 18123), (10, 18639), (12, 18888), (13, 18936), (15, 18960), (16, 18972), (18, 19026), (19, 19053), (21, 19095), (23, 19224), (24, 19236), (25, 19284), (27, 19314), (28, 19323), (30, 19350), (39, 19758), (41, 19791), (42, 19821), (44, 19866), (49, 20004), (50, 20052), (57, 20310), (58, 20394), (59, 20415), (61, 20574), (62, 20730), (65, 20799), (67, 20856), (69, 20907), (72, 21030), (85, 21213), (86, 21222), (89, 21264), (95, 21327), (96, 21420), (97, 21432), (101, 21501), (104, 21543), (106, 21579), (107, 21588), (109, 21654), (110, 21663), (117, 21999), (121, 22053), (122, 22137), (123, 22215), (127, 22359), (128, 22383), (129, 22401), (130, 22443), (131, 22449), (134, 22515), (136, 22554), (137, 22713), (139, 22764), (140, 22782),

Gene: Minerva_34 Start: 20248, Stop: 25185, Start Num: 1
Candidate Starts for Minerva_34:
(Start: 1 @20248 has 41 MA's), (2, 20296), (3, 20362), (5, 20407), (9, 20830), (11, 20989), (12, 21193), (13, 21241), (15, 21265), (16, 21277), (18, 21331), (19, 21358), (21, 21400), (23, 21529), (24, 21541), (25, 21589), (27, 21619), (28, 21628), (30, 21655), (36, 22012), (37, 22033), (39, 22063), (41, 22096), (42, 22126), (44, 22171), (49, 22309), (50, 22357), (57, 22615), (58, 22702), (59, 22723), (60, 22861), (61, 22882), (62, 23038), (63, 23041), (64, 23098), (66, 23161), (67, 23164), (68, 23209), (69, 23215), (70, 23218), (72, 23335), (75, 23404), (77, 23437), (86, 23527), (101, 23812), (102, 23818), (103, 23842), (104, 23851), (106, 23890), (107, 23899), (108, 23905), (109, 23965), (110, 23974), (111, 23992), (117, 24310), (118, 24337), (119, 24367), (124, 24610), (126, 24640), (128, 24751), (129, 24769), (130, 24811), (131, 24817), (133, 24880), (135, 24898), (136, 24922), (138, 25135),

Gene: Nekros_32 Start: 20210, Stop: 25012, Start Num: 1
Candidate Starts for Nekros_32:
(Start: 1 @20210 has 41 MA's), (2, 20258), (4, 20336), (7, 20621), (8, 20765), (12, 21155), (14, 21215), (15, 21227), (16, 21239), (17, 21269), (21, 21362), (22, 21446), (24, 21503), (27, 21581), (28, 21590), (30, 21617), (32, 21716), (38, 21998), (41, 22058), (45, 22145), (49, 22271), (58, 22658), (61, 22838), (62, 22994), (65, 23063), (67, 23120), (69, 23171), (71, 23252), (73, 23291), (74, 23336), (77, 23369), (81, 23426), (83, 23429), (94, 23549), (101, 23702), (104, 23744), (107, 23789), (110, 23864), (112, 23921), (114, 24011), (117, 24200), (121, 24254), (122, 24338), (123, 24416), (127, 24560), (128, 24584), (129, 24602), (130, 24644), (131, 24650), (133, 24713), (134, 24716), (135, 24731), (136, 24755), (137, 24914), (139, 24965), (140, 24983),

Gene: Nibley_27 Start: 16891, Stop: 21693, Start Num: 1
Candidate Starts for Nibley_27:
(Start: 1 @16891 has 41 MA's), (2, 16939), (3, 17005), (5, 17050), (10, 17566), (12, 17815), (13, 17863), (15, 17887), (16, 17899), (18, 17953), (19, 17980), (21, 18022), (23, 18151), (24, 18163), (25, 18211), (27, 18241), (28, 18250), (30, 18277), (39, 18685), (41, 18718), (42, 18748), (44, 18793), (49, 18931), (50, 18979), (57, 19243), (58, 19327), (59, 19348), (61, 19507), (62, 19663), (65, 19732), (67, 19789), (69, 19840), (71, 19921), (73, 19960), (74, 20005), (77, 20038), (81, 20095), (83, 20098), (94, 20218), (101, 20371), (104, 20413), (107, 20458), (110, 20533), (112, 20590), (114, 20680), (115,

20812), (116, 20827), (117, 20869), (118, 20896), (120, 20908), (121, 20935), (122, 21019), (123, 21097), (128, 21265), (129, 21283), (130, 21325), (131, 21331), (134, 21397), (136, 21436), (137, 21595), (139, 21646), (140, 21664),

Gene: NihilNomen_33 Start: 20245, Stop: 25158, Start Num: 1
Candidate Starts for NihilNomen_33:
(Start: 1 @20245 has 41 MA's), (2, 20293), (3, 20359), (5, 20404), (9, 20827), (11, 20986), (12, 21190), (14, 21250), (15, 21262), (16, 21274), (18, 21328), (19, 21355), (21, 21397), (23, 21526), (24, 21538), (25, 21586), (27, 21616), (28, 21625), (30, 21652), (41, 22093), (42, 22123), (45, 22180), (46, 22231), (49, 22306), (50, 22354), (57, 22612), (58, 22696), (59, 22717), (60, 22855), (61, 22876), (62, 23032), (63, 23035), (64, 23092), (66, 23155), (67, 23158), (68, 23203), (69, 23209), (70, 23212), (72, 23308), (75, 23377), (77, 23410), (86, 23500), (101, 23785), (102, 23791), (103, 23815), (104, 23824), (106, 23863), (107, 23872), (108, 23878), (109, 23938), (110, 23947), (111, 23965), (117, 24283), (118, 24310), (119, 24340), (124, 24583), (126, 24613), (128, 24724), (129, 24742), (130, 24784), (131, 24790), (133, 24853), (135, 24871), (136, 24895), (138, 25108),

Gene: Odette_34 Start: 19726, Stop: 24645, Start Num: 1
Candidate Starts for Odette_34:
(Start: 1 @19726 has 41 MA's), (2, 19774), (3, 19840), (5, 19885), (9, 20308), (11, 20467), (12, 20671), (14, 20731), (15, 20743), (16, 20755), (18, 20809), (19, 20836), (21, 20878), (23, 21007), (24, 21019), (25, 21067), (27, 21097), (28, 21106), (30, 21133), (41, 21574), (42, 21604), (45, 21661), (46, 21712), (49, 21787), (50, 21835), (57, 22093), (58, 22177), (59, 22198), (60, 22336), (61, 22357), (62, 22513), (63, 22516), (64, 22573), (66, 22636), (67, 22639), (68, 22684), (69, 22690), (70, 22693), (72, 22810), (75, 22879), (76, 22894), (77, 22912), (86, 23002), (101, 23287), (102, 23293), (103, 23317), (104, 23326), (106, 23365), (107, 23374), (108, 23380), (109, 23440), (110, 23449), (111, 23467), (117, 23773), (118, 23800), (119, 23830), (124, 24073), (126, 24103), (128, 24214), (129, 24232), (130, 24274), (131, 24280), (133, 24343), (135, 24361), (136, 24385), (138, 24595),

Gene: Omega_34 Start: 21889, Stop: 26688, Start Num: 1
Candidate Starts for Omega_34:
(Start: 1 @21889 has 41 MA's), (2, 21937), (3, 22003), (5, 22048), (6, 22222), (12, 22813), (14, 22873), (15, 22885), (16, 22897), (18, 22951), (21, 23020), (23, 23149), (24, 23161), (25, 23209), (27, 23239), (28, 23248), (30, 23275), (39, 23683), (41, 23716), (42, 23746), (44, 23791), (49, 23929), (50, 23977), (57, 24235), (58, 24322), (59, 24343), (61, 24502), (62, 24658), (65, 24727), (67, 24784), (69, 24835), (71, 24916), (73, 24955), (74, 25000), (77, 25033), (81, 25090), (83, 25093), (94, 25213), (101, 25366), (104, 25408), (107, 25453), (110, 25528), (112, 25585), (114, 25675), (115, 25807), (116, 25822), (117, 25864), (118, 25891), (120, 25903), (121, 25930), (122, 26014), (123, 26092), (128, 26260), (129, 26278), (130, 26320), (131, 26326), (133, 26389), (134, 26392), (135, 26407), (136, 26431), (137, 26590), (139, 26641), (140, 26659),

Gene: Optimus_32 Start: 19823, Stop: 24739, Start Num: 1
Candidate Starts for Optimus_32:
(Start: 1 @19823 has 41 MA's), (2, 19871), (3, 19937), (5, 19982), (9, 20405), (11, 20564), (12, 20768), (14, 20828), (15, 20840), (16, 20852), (18, 20906), (19, 20933), (21, 20975), (23, 21104), (24, 21116), (25, 21164), (27, 21194), (28, 21203), (30, 21230), (41, 21671), (42, 21701), (45, 21758), (46, 21809), (49, 21884), (50, 21932), (57, 22190), (58, 22277), (59, 22298), (60, 22436), (61, 22457), (62, 22613), (63, 22616), (64, 22673), (66, 22736), (67, 22739), (68, 22784), (69, 22790), (70, 22793), (72, 22889), (75, 22958), (77, 22991), (86, 23081), (102, 23372), (103, 23396), (104, 23405), (106, 23444), (107, 23453), (108, 23459), (109, 23519), (110, 23528), (111, 23546), (117, 23864), (118, 23891), (119, 23921), (124, 24164), (126, 24194), (128, 24305), (129, 24323), (130, 24365), (131, 24371), (133, 24434), (135, 24452), (136, 24476), (138, 24689),

Gene: Phoebus_34 Start: 20470, Stop: 25389, Start Num: 1

Candidate Starts for Phoebus_34:
(Start: 1 @20470 has 41 MA's), (2, 20518), (3, 20584), (5, 20629), (9, 21052), (11, 21211), (12, 21415), (14, 21475), (15, 21487), (16, 21499), (18, 21553), (19, 21580), (21, 21622), (23, 21751), (24, 21763), (25, 21811), (27, 21841), (28, 21850), (30, 21877), (41, 22318), (42, 22348), (45, 22405), (46, 22456), (49, 22531), (50, 22579), (57, 22837), (58, 22921), (59, 22942), (60, 23080), (61, 23101), (62, 23257), (63, 23260), (64, 23317), (66, 23380), (67, 23383), (68, 23428), (69, 23434), (70, 23437), (72, 23554), (75, 23623), (76, 23638), (77, 23656), (86, 23746), (101, 24031), (102, 24037), (103, 24061), (104, 24070), (106, 24109), (107, 24118), (108, 24124), (109, 24184), (110, 24193), (111, 24211), (117, 24517), (118, 24544), (119, 24574), (124, 24817), (126, 24847), (128, 24958), (129, 24976), (130, 25018), (131, 25024), (133, 25087), (135, 25105), (136, 25129), (138, 25339),

Gene: Porcelain_31 Start: 17964, Stop: 22811, Start Num: 1
Candidate Starts for Porcelain_31:
(Start: 1 @17964 has 41 MA's), (2, 18012), (3, 18078), (5, 18123), (10, 18639), (12, 18888), (13, 18936), (15, 18960), (16, 18972), (18, 19026), (19, 19053), (21, 19095), (23, 19224), (24, 19236), (25, 19284), (27, 19314), (28, 19323), (30, 19350), (39, 19758), (41, 19791), (42, 19821), (44, 19866), (49, 20004), (50, 20052), (57, 20310), (58, 20394), (59, 20415), (61, 20574), (62, 20730), (65, 20799), (67, 20856), (69, 20907), (72, 21030), (85, 21213), (86, 21222), (89, 21264), (95, 21327), (96, 21420), (97, 21432), (101, 21501), (104, 21543), (106, 21579), (107, 21588), (109, 21654), (110, 21663), (117, 21999), (121, 22053), (122, 22137), (123, 22215), (127, 22359), (128, 22383), (129, 22401), (130, 22443), (131, 22449), (134, 22515), (136, 22554), (137, 22713), (139, 22764), (140, 22782),

Gene: Pound_34 Start: 20561, Stop: 25465, Start Num: 1
Candidate Starts for Pound_34:
(Start: 1 @20561 has 41 MA's), (2, 20609), (3, 20675), (5, 20720), (6, 20894), (12, 21485), (13, 21533), (15, 21557), (16, 21569), (18, 21623), (19, 21650), (21, 21692), (23, 21821), (24, 21833), (25, 21881), (27, 21911), (28, 21920), (30, 21947), (39, 22355), (41, 22388), (42, 22418), (44, 22463), (49, 22601), (50, 22649), (57, 22907), (58, 22994), (59, 23015), (60, 23153), (61, 23174), (62, 23330), (63, 23333), (64, 23390), (66, 23453), (67, 23456), (68, 23501), (69, 23507), (70, 23510), (72, 23627), (75, 23696), (77, 23729), (86, 23819), (102, 24110), (103, 24134), (104, 24143), (106, 24182), (107, 24191), (108, 24197), (109, 24257), (110, 24266), (111, 24284), (117, 24590), (118, 24617), (124, 24890), (126, 24920), (128, 25031), (129, 25049), (130, 25091), (131, 25097), (133, 25160), (136, 25202), (138, 25415),

Gene: Rearden_29 Start: 16949, Stop: 21781, Start Num: 1
Candidate Starts for Rearden_29:
(Start: 1 @16949 has 41 MA's), (2, 16997), (3, 17063), (5, 17108), (10, 17624), (12, 17873), (13, 17921), (15, 17945), (16, 17957), (18, 18011), (19, 18038), (21, 18080), (23, 18209), (24, 18221), (25, 18269), (27, 18299), (28, 18308), (30, 18335), (39, 18743), (41, 18776), (42, 18806), (44, 18851), (49, 18989), (50, 19037), (57, 19295), (58, 19379), (59, 19400), (61, 19559), (62, 19715), (65, 19784), (67, 19841), (69, 19892), (79, 20147), (82, 20177), (88, 20231), (92, 20276), (100, 20459), (101, 20486), (109, 20648), (110, 20657), (117, 20969), (122, 21107), (123, 21185), (127, 21329), (128, 21353), (129, 21371), (130, 21413), (131, 21419), (134, 21485), (136, 21524), (137, 21683), (139, 21734), (140, 21752),

Gene: Redno2_33 Start: 19954, Stop: 24852, Start Num: 1
Candidate Starts for Redno2_33:
(Start: 1 @19954 has 41 MA's), (2, 20002), (3, 20068), (5, 20113), (6, 20287), (12, 20878), (14, 20938), (15, 20950), (16, 20962), (18, 21016), (19, 21043), (21, 21085), (23, 21214), (24, 21226), (25, 21274), (27, 21304), (28, 21313), (30, 21340), (41, 21781), (42, 21811), (45, 21868), (46, 21919), (49, 21994), (50, 22042), (57, 22300), (58, 22384), (59, 22405), (60, 22543), (61, 22564), (62, 22720), (63, 22723), (64, 22780), (66, 22843), (67, 22846), (68, 22891), (69, 22897), (70, 22900), (72, 23017), (75, 23086), (76, 23101), (77, 23119), (86, 23209), (101, 23494), (102, 23500), (103, 23524), (104, 23533), (106,

23572), (107, 23581), (108, 23587), (109, 23647), (110, 23656), (111, 23674), (117, 23980), (118, 24007), (119, 24037), (124, 24280), (126, 24310), (128, 24421), (129, 24439), (130, 24481), (131, 24487), (133, 24550), (135, 24568), (136, 24592), (138, 24802),

Gene: Schatzie_32 Start: 19494, Stop: 24404, Start Num: 1
Candidate Starts for Schatzie_32:
(Start: 1 @19494 has 41 MA's), (2, 19542), (3, 19608), (5, 19653), (6, 19827), (12, 20418), (13, 20466), (15, 20490), (16, 20502), (18, 20556), (19, 20583), (21, 20625), (23, 20754), (24, 20766), (25, 20814), (27, 20844), (28, 20853), (30, 20880), (39, 21288), (41, 21321), (42, 21351), (44, 21396), (49, 21534), (50, 21582), (52, 21666), (57, 21846), (58, 21933), (60, 22092), (61, 22113), (62, 22269), (63, 22272), (64, 22329), (66, 22392), (67, 22395), (68, 22440), (69, 22446), (70, 22449), (72, 22566), (75, 22635), (77, 22668), (86, 22758), (102, 23049), (103, 23073), (104, 23082), (106, 23121), (107, 23130), (108, 23136), (109, 23196), (110, 23205), (111, 23223), (117, 23529), (118, 23556), (124, 23829), (126, 23859), (128, 23970), (129, 23988), (130, 24030), (131, 24036), (133, 24099), (135, 24117), (136, 24141), (138, 24354),

Gene: Shaboozey_26 Start: 16375, Stop: 21180, Start Num: 1
Candidate Starts for Shaboozey_26:
(Start: 1 @16375 has 41 MA's), (2, 16423), (3, 16489), (5, 16534), (10, 17050), (12, 17302), (13, 17350), (15, 17374), (16, 17386), (18, 17440), (21, 17509), (23, 17638), (24, 17650), (25, 17698), (27, 17728), (28, 17737), (30, 17764), (41, 18205), (42, 18235), (45, 18292), (49, 18418), (50, 18466), (57, 18730), (58, 18814), (59, 18835), (61, 18994), (62, 19150), (65, 19219), (67, 19276), (69, 19327), (71, 19408), (73, 19447), (74, 19492), (77, 19525), (81, 19582), (83, 19585), (94, 19705), (101, 19858), (104, 19900), (107, 19945), (110, 20020), (112, 20077), (114, 20167), (115, 20299), (116, 20314), (117, 20356), (118, 20383), (120, 20395), (121, 20422), (122, 20506), (123, 20584), (128, 20752), (129, 20770), (130, 20812), (131, 20818), (133, 20881), (134, 20884), (135, 20899), (136, 20923), (137, 21082), (139, 21133), (140, 21151),

Gene: Squint_31 Start: 18090, Stop: 22928, Start Num: 1
Candidate Starts for Squint_31:
(Start: 1 @18090 has 41 MA's), (2, 18138), (3, 18204), (5, 18249), (10, 18765), (12, 19014), (13, 19062), (15, 19086), (16, 19098), (18, 19152), (19, 19179), (21, 19221), (23, 19350), (24, 19362), (25, 19410), (27, 19440), (28, 19449), (30, 19476), (39, 19884), (41, 19917), (42, 19947), (44, 19992), (49, 20130), (50, 20178), (57, 20442), (58, 20526), (61, 20706), (62, 20862), (65, 20931), (67, 20988), (69, 21039), (78, 21291), (79, 21294), (82, 21324), (88, 21378), (92, 21423), (100, 21606), (101, 21633), (109, 21795), (110, 21804), (117, 22116), (122, 22254), (123, 22332), (128, 22500), (129, 22518), (130, 22560), (131, 22566), (134, 22632), (136, 22671), (137, 22830), (139, 22881), (140, 22899),

Gene: Superphikiman_32 Start: 18146, Stop: 22993, Start Num: 1
Candidate Starts for Superphikiman_32:
(Start: 1 @18146 has 41 MA's), (2, 18194), (3, 18260), (5, 18305), (10, 18821), (12, 19070), (13, 19118), (15, 19142), (16, 19154), (18, 19208), (19, 19235), (21, 19277), (23, 19406), (24, 19418), (25, 19466), (27, 19496), (28, 19505), (30, 19532), (39, 19940), (41, 19973), (42, 20003), (44, 20048), (49, 20186), (50, 20234), (57, 20492), (58, 20576), (59, 20597), (61, 20756), (62, 20912), (65, 20981), (67, 21038), (69, 21089), (72, 21212), (85, 21395), (86, 21404), (89, 21446), (95, 21509), (96, 21602), (97, 21614), (101, 21683), (104, 21725), (106, 21761), (107, 21770), (109, 21836), (110, 21845), (117, 22181), (121, 22235), (122, 22319), (123, 22397), (127, 22541), (128, 22565), (129, 22583), (130, 22625), (131, 22631), (134, 22697), (136, 22736), (137, 22895), (139, 22946), (140, 22964),

Gene: Thibault_30 Start: 19754, Stop: 24601, Start Num: 1
Candidate Starts for Thibault_30:
(Start: 1 @19754 has 41 MA's), (2, 19802), (3, 19868), (5, 19913), (6, 20087), (12, 20678), (14, 20738), (15, 20750), (16, 20762), (18, 20816), (19, 20843), (21, 20885), (23, 21014), (24, 21026), (25, 21074),

(27, 21104), (28, 21113), (30, 21140), (39, 21548), (41, 21581), (42, 21611), (44, 21656), (49, 21794), (50, 21842), (54, 21932), (57, 22088), (58, 22169), (61, 22349), (62, 22505), (64, 22565), (67, 22631), (68, 22676), (69, 22682), (70, 22685), (80, 22910), (84, 22940), (87, 22967), (90, 22994), (91, 23018), (93, 23039), (98, 23183), (99, 23198), (100, 23210), (101, 23237), (102, 23243), (105, 23306), (109, 23384), (110, 23393), (112, 23450), (117, 23726), (118, 23753), (124, 24026), (126, 24056), (128, 24167), (129, 24185), (130, 24227), (131, 24233), (133, 24296), (135, 24314), (136, 24338), (138, 24551),

Gene: ThreeRngTarjay_33 Start: 20320, Stop: 25239, Start Num: 1
Candidate Starts for ThreeRngTarjay_33:
(Start: 1 @20320 has 41 MA's), (2, 20368), (3, 20434), (5, 20479), (9, 20902), (11, 21061), (12, 21265), (14, 21325), (15, 21337), (16, 21349), (18, 21403), (19, 21430), (21, 21472), (23, 21601), (24, 21613), (25, 21661), (27, 21691), (28, 21700), (30, 21727), (41, 22168), (42, 22198), (45, 22255), (46, 22306), (49, 22381), (50, 22429), (57, 22687), (58, 22771), (59, 22792), (60, 22930), (61, 22951), (62, 23107), (63, 23110), (64, 23167), (66, 23230), (67, 23233), (68, 23278), (69, 23284), (70, 23287), (72, 23404), (75, 23473), (76, 23488), (77, 23506), (86, 23596), (101, 23881), (102, 23887), (103, 23911), (104, 23920), (106, 23959), (107, 23968), (108, 23974), (109, 24034), (110, 24043), (111, 24061), (117, 24367), (118, 24394), (119, 24424), (124, 24667), (126, 24697), (128, 24808), (129, 24826), (130, 24868), (131, 24874), (133, 24937), (135, 24955), (136, 24979), (138, 25189),

Gene: Wanda_35 Start: 19763, Stop: 24694, Start Num: 1
Candidate Starts for Wanda_35:
(Start: 1 @19763 has 41 MA's), (2, 19811), (3, 19877), (5, 19922), (9, 20345), (11, 20504), (12, 20708), (13, 20756), (15, 20780), (16, 20792), (18, 20846), (19, 20873), (21, 20915), (23, 21044), (24, 21056), (25, 21104), (27, 21134), (28, 21143), (30, 21170), (41, 21611), (42, 21641), (44, 21686), (49, 21824), (50, 21872), (57, 22130), (58, 22214), (59, 22235), (60, 22373), (61, 22394), (62, 22550), (63, 22553), (64, 22610), (66, 22673), (67, 22676), (68, 22721), (69, 22727), (70, 22730), (72, 22847), (75, 22916), (77, 22949), (86, 23039), (101, 23324), (102, 23330), (103, 23354), (104, 23363), (106, 23402), (107, 23411), (108, 23417), (109, 23477), (110, 23486), (111, 23504), (117, 23822), (118, 23849), (119, 23879), (124, 24122), (126, 24152), (128, 24263), (129, 24281), (130, 24323), (131, 24329), (133, 24392), (135, 24410), (136, 24434), (138, 24644),

Gene: Xiaokay_31 Start: 19770, Stop: 24653, Start Num: 1
Candidate Starts for Xiaokay_31:
(Start: 1 @19770 has 41 MA's), (2, 19818), (3, 19884), (5, 19929), (6, 20103), (12, 20691), (13, 20739), (15, 20763), (16, 20775), (18, 20829), (21, 20898), (23, 21027), (24, 21039), (25, 21087), (27, 21117), (28, 21126), (30, 21153), (39, 21561), (41, 21594), (42, 21624), (44, 21669), (49, 21807), (50, 21855), (53, 21945), (57, 22101), (58, 22182), (61, 22362), (62, 22518), (64, 22578), (66, 22641), (67, 22644), (68, 22689), (69, 22695), (70, 22698), (72, 22815), (75, 22884), (77, 22917), (86, 23007), (102, 23298), (103, 23322), (104, 23331), (106, 23370), (107, 23379), (108, 23385), (109, 23445), (110, 23454), (111, 23472), (117, 23778), (118, 23805), (119, 23835), (124, 24078), (126, 24108), (128, 24219), (129, 24237), (130, 24279), (131, 24285), (135, 24366), (136, 24390), (138, 24603),

Gene: Yeet_32 Start: 19496, Stop: 24388, Start Num: 1
Candidate Starts for Yeet_32:
(Start: 1 @19496 has 41 MA's), (2, 19544), (3, 19610), (5, 19655), (12, 20420), (13, 20468), (15, 20492), (16, 20504), (18, 20558), (19, 20585), (21, 20627), (23, 20756), (24, 20768), (25, 20816), (27, 20846), (28, 20855), (30, 20882), (41, 21323), (42, 21353), (45, 21410), (46, 21461), (49, 21536), (50, 21584), (57, 21842), (58, 21926), (59, 21947), (60, 22085), (61, 22106), (62, 22262), (63, 22265), (64, 22322), (66, 22385), (67, 22388), (68, 22433), (69, 22439), (70, 22442), (72, 22538), (75, 22607), (77, 22640), (86, 22730), (101, 23015), (102, 23021), (103, 23045), (104, 23054), (106, 23093), (107, 23102), (108, 23108), (109, 23168), (110, 23177), (111, 23195), (117, 23513), (118, 23540), (119, 23570), (124, 23813), (126, 23843), (128, 23954), (129, 23972), (130, 24014), (131, 24020), (133,

24083), (135, 24101), (136, 24125), (138, 24338),

Gene: Zelink_35 Start: 20348, Stop: 25270, Start Num: 1
Candidate Starts for Zelink_35:
(Start: 1 @20348 has 41 MA's), (2, 20396), (3, 20462), (5, 20507), (9, 20930), (11, 21089), (12, 21293), (14, 21353), (15, 21365), (16, 21377), (18, 21431), (19, 21458), (21, 21500), (23, 21629), (24, 21641), (25, 21689), (27, 21719), (28, 21728), (30, 21755), (39, 22163), (41, 22196), (42, 22226), (44, 22271), (46, 22334), (49, 22409), (50, 22457), (57, 22715), (58, 22799), (59, 22820), (60, 22958), (61, 22979), (62, 23135), (63, 23138), (64, 23195), (66, 23258), (67, 23261), (68, 23306), (69, 23312), (70, 23315), (72, 23432), (75, 23501), (77, 23534), (86, 23624), (102, 23915), (103, 23939), (104, 23948), (106, 23987), (107, 23996), (108, 24002), (109, 24062), (110, 24071), (111, 24089), (117, 24395), (118, 24422), (124, 24695), (126, 24725), (128, 24836), (129, 24854), (130, 24896), (131, 24902), (133, 24965), (135, 24983), (136, 25007), (138, 25220),