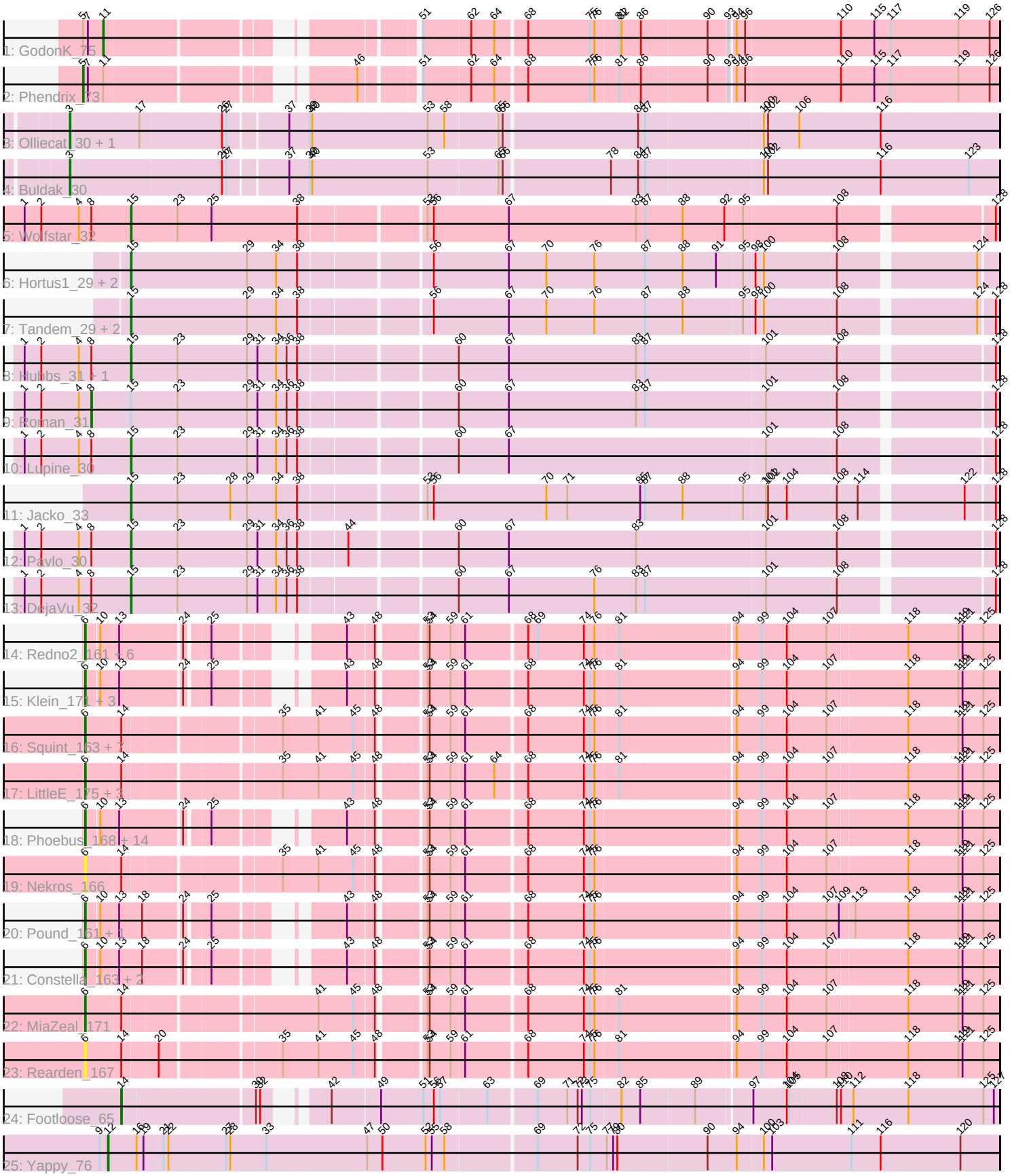
Pham 216141


1: GodonK_75
2: Phendrix_73
3: Olliecat_130 + 1
4: Buldak_130
5: Wolfstar_32
6: Hortus1_29 + 2
7: Tandem_29 + 2
8: Hubbs_31 + 1
9: Roman_31
10: Lupine_30
11: Jacko_33
12: Pavlo_30
13: DejaVu_32
14: Redno2_161 + 6
15: Klein_171 + 3
16: Squint_163 + 7
17: LittleE_175 + 3
18: Phoebus_168 + 14
19: Nekros_166
20: Pound_161 + 1
21: Constella_163 + 2
22: MiaZeal_171
23: Rearden_167
24: Footloose_65
25: Yappy_76

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 216141 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216141 has 67 members, 7 are drafts.

Phages represented in each track:
• Track 1 : GodonK_75
• Track 2 : Phendrix_73
• Track 3 : Olliecat_30, Squircle_30
• Track 4 : Buldak_30
• Track 5 : Wolfstar_32
• Track 6 : Hortus1_29, Platte_29, OlinDD_29
• Track 7 : Tandem_29, Alleb_30, Pioneer3_29
• Track 8 : Hubbs_31, PhillyPhilly_31
• Track 9 : Roman_31
• Track 10 : Lupine_30
• Track 11 : Jacko_33
• Track 12 : Pavlo_30
• Track 13 : DejaVu_32
• Track 14 : Redno2_161, Yeet_159, HokkenD_162, JuicyJay_162, NihilNomen_169, Dove_154, Bombitas_154
• Track 15 : Klein_171, EricMillard_165, Hughesyang_166, Bagrid_176
• Track 16 : Squint_163, Ariel_168, Hannaconda_160, Superphikiman_166, Courthouse_165, Omega_176, Shaboozey_166, Gonephishing_161
• Track 17 : LittleE_175, KashFlow_165, Lucky2013_164, Porcelain_168
• Track 18 : Phoebus_168, Zelink_160, Beem_168, Duke13_170, ThreeRngTarjay_164, Odette_171, Kalah2_164, Halley_168, Optimus_166, BAKA_173, Ejimix_158, Wanda_165, Minerva_167, Schatzie_162, Dallas_167
• Track 19 : Nekros_166
• Track 20 : Pound_161, DmpstrDiver_168
• Track 21 : Constella_163, Marleymoo_154, Thibault_151
• Track 22 : MiaZeal_171
• Track 23 : Rearden_167
• Track 24 : Footloose_65
• Track 25 : Yappy_76

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

The start number called the most often in the published annotations is 6, it was called in 39 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Ariel_168, BAKA_173, Bagrid_176, Beem_168, Bombitas_154, Constella_163, Courthouse_165, Dallas_167, DmpstrDiver_168, Dove_154, Duke13_170, Ejimix_158, EricMillard_165, Gonephishing_161, Halley_168, Hannaconda_160, HokkenD_162, Hughesyang_166, JuicyJay_162, Kalah2_164, KashFlow_165, Klein_171, LittleE_175, Lucky2013_164, Marleymoo_154, MiaZeal_171, Minerva_167, Nekros_166, NihilNomen_169, Odette_171, Omega_176, Optimus_166, Phoebus_168, Porcelain_168, Pound_161, Rearden_167, Redno2_161, Schatzie_162, Shaboozey_166, Squint_163, Superphikiman_166, Thibault_151, ThreeRngTarjay_164, Wanda_165, Yeet_159, Zelink_160,

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

Genes that do not have the "Most Annotated" start:
• Alleb_30, Buldak_30, DejaVu_32, Footloose_65, GodonK_75, Hortus1_29, Hubbs_31, Jacko_33, Lupine_30, OlinDD_29, Olliecat_30, Pavlo_30, Phendrix_73, PhillyPhilly_31, Pioneer3_29, Platte_29, Roman_31, Squircle_30, Tandem_29, Wolfstar_32, Yappy_76,

Summary by start number:

Start 3:
• Found in 3 of 67 (4.5%) of genes in pham
• Manual Annotations of this start: 3 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Buldak_30 (EB), Olliecat_30 (EB), Squircle_30 (EB),

Start 5:
• Found in 2 of 67 (3.0%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Phendrix_73 (DK),

Start 6:
• Found in 46 of 67 (68.7%) of genes in pham
• Manual Annotations of this start: 39 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ariel_168 (J), BAKA_173 (J), Bagrid_176 (J), Beem_168 (J), Bombitas_154 (J), Constella_163 (J), Courthouse_165 (J), Dallas_167 (J), DmpstrDiver_168 (J), Dove_154 (J), Duke13_170 (J), Ejimix_158 (J), EricMillard_165 (J), Gonephishing_161 (J), Halley_168 (J), Hannaconda_160 (J), HokkenD_162 (J), Hughesyang_166 (J), JuicyJay_162 (J), Kalah2_164 (J), KashFlow_165 (J), Klein_171 (J), LittleE_175 (J), Lucky2013_164 (J), Marleymoo_154 (J), MiaZeal_171 (J), Minerva_167 (J), Nekros_166 (J), NihilNomen_169 (J), Odette_171 (J), Omega_176 (J), Optimus_166 (J), Phoebus_168 (J), Porcelain_168 (J), Pound_161 (J), Rearden_167 (J), Redno2_161 (J), Schatzie_162 (J), Shaboozey_166 (J), Squint_163 (J), Superphikiman_166 (J), Thibault_151 (J), ThreeRngTarjay_164 (J), Wanda_165 (J), Yeet_159 (J), Zelink_160 (J),

Start 8:
• Found in 7 of 67 (10.4%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 14.3% of time when present
• Phage (with cluster) where this start called: Roman_31 (ED1),

Start 11:
• Found in 2 of 67 (3.0%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 50.0% of time when present
• Phage (with cluster) where this start called: GodonK_75 (DK),

Start 12:
• Found in 1 of 67 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Yappy_76 (singleton),

Start 14:
• Found in 16 of 67 (23.9%) of genes in pham
• Manual Annotations of this start: 1 of 60
• Called 6.2% of time when present
• Phage (with cluster) where this start called: Footloose_65 (singleton),

Start 15:
• Found in 14 of 67 (20.9%) of genes in pham
• Manual Annotations of this start: 13 of 60
• Called 92.9% of time when present
• Phage (with cluster) where this start called: Alleb_30 (ED1), DejaVu_32 (ED1), Hortus1_29 (ED1), Hubbs_31 (ED1), Jacko_33 (ED1), Lupine_30 (ED1), OlinDD_29 (ED1), Pavlo_30 (ED1), PhillyPhilly_31 (ED1), Pioneer3_29 (ED1), Platte_29 (ED1), Tandem_29 (ED1), Wolfstar_32 (ED),

Summary by clusters:

There are 6 clusters represented in this pham: singleton, DK, ED, J, EB, ED1,

Info for manual annotations of cluster DK:
•Start number 5 was manually annotated 1 time for cluster DK.
•Start number 11 was manually annotated 1 time for cluster DK.

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

Info for manual annotations of cluster ED:
•Start number 15 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:
•Start number 8 was manually annotated 1 time for cluster ED1.
•Start number 15 was manually annotated 12 times for cluster ED1.

Info for manual annotations of cluster J:
•Start number 6 was manually annotated 39 times for cluster J.

Gene Information:

Gene: Alleb_30 Start: 9569, Stop: 10762, Start Num: 15
Candidate Starts for Alleb_30:
(Start: 15 @9569 has 13 MA's), (29, 9734), (34, 9776), (38, 9806), (56, 9980), (67, 10088), (70, 10142), (76, 10211), (87, 10283), (88, 10337), (95, 10421), (98, 10436), (100, 10448), (108, 10553), (124, 10736), (128, 10757),

Gene: Ariel_168 Start: 85565, Stop: 86785, Start Num: 6
Candidate Starts for Ariel_168:
(Start: 6 @85565 has 39 MA's), (Start: 14 @85613 has 1 MA's), (35, 85814), (41, 85865), (45, 85913), (48, 85940), (53, 85997), (54, 86000), (59, 86030), (61, 86048), (68, 86129), (74, 86207), (75, 86216), (76, 86222), (81, 86255), (94, 86414), (99, 86450), (104, 86486), (107, 86543), (118, 86654), (119, 86726), (121, 86732), (125, 86762),

Gene: BAKA_173 Start: 90543, Stop: 91703, Start Num: 6
Candidate Starts for BAKA_173:
(Start: 6 @90543 has 39 MA's), (10, 90561), (13, 90585), (24, 90669), (25, 90699), (43, 90822), (48, 90858), (53, 90915), (54, 90918), (59, 90948), (61, 90966), (68, 91047), (74, 91125), (75, 91134), (76, 91140), (94, 91332), (99, 91368), (104, 91404), (107, 91461), (118, 91572), (119, 91644), (121, 91650), (125, 91680),

Gene: Bagrid_176 Start: 90905, Stop: 92065, Start Num: 6
Candidate Starts for Bagrid_176:
(Start: 6 @90905 has 39 MA's), (10, 90923), (13, 90947), (24, 91031), (25, 91061), (43, 91184), (48, 91220), (53, 91277), (54, 91280), (59, 91310), (61, 91328), (68, 91409), (74, 91487), (75, 91496), (76, 91502), (81, 91535), (94, 91694), (99, 91730), (104, 91766), (107, 91823), (118, 91934), (119, 92006), (121, 92012), (125, 92042),

Gene: Beem_168 Start: 89698, Stop: 90858, Start Num: 6
Candidate Starts for Beem_168:
(Start: 6 @89698 has 39 MA's), (10, 89716), (13, 89740), (24, 89824), (25, 89854), (43, 89977), (48, 90013), (53, 90070), (54, 90073), (59, 90103), (61, 90121), (68, 90202), (74, 90280), (75, 90289), (76, 90295), (94, 90487), (99, 90523), (104, 90559), (107, 90616), (118, 90727), (119, 90799), (121, 90805), (125, 90835),

Gene: Bombitas_154 Start: 85928, Stop: 87088, Start Num: 6
Candidate Starts for Bombitas_154:
(Start: 6 @85928 has 39 MA's), (10, 85946), (13, 85970), (24, 86054), (25, 86084), (43, 86207), (48, 86243), (53, 86300), (54, 86303), (59, 86333), (61, 86351), (68, 86432), (69, 86444), (74, 86510), (76, 86525), (81, 86558), (94, 86717), (99, 86753), (104, 86789), (107, 86846), (118, 86957), (119, 87029), (121, 87035), (125, 87065),

Gene: Buldak_30 Start: 21932, Stop: 23209, Start Num: 3
Candidate Starts for Buldak_30:
(Start: 3 @21932 has 3 MA's), (26, 22133), (27, 22139), (37, 22217), (39, 22244), (40, 22247), (53, 22412), (65, 22511), (66, 22517), (78, 22661), (84, 22700), (87, 22709), (100, 22871), (102, 22877), (116, 23039), (123, 23165),

Gene: Constella_163 Start: 88432, Stop: 89592, Start Num: 6

Candidate Starts for Constella_163:
(Start: 6 @88432 has 39 MA's), (10, 88450), (13, 88474), (18, 88507), (24, 88558), (25, 88588), (43, 88711), (48, 88747), (53, 88804), (54, 88807), (59, 88837), (61, 88855), (68, 88936), (74, 89014), (75, 89023), (76, 89029), (94, 89221), (99, 89257), (104, 89293), (107, 89350), (118, 89461), (119, 89533), (121, 89539), (125, 89569),

Gene: Courthouse_165 Start: 86009, Stop: 87229, Start Num: 6
Candidate Starts for Courthouse_165:
(Start: 6 @86009 has 39 MA's), (Start: 14 @86057 has 1 MA's), (35, 86258), (41, 86309), (45, 86357), (48, 86384), (53, 86441), (54, 86444), (59, 86474), (61, 86492), (68, 86573), (74, 86651), (75, 86660), (76, 86666), (81, 86699), (94, 86858), (99, 86894), (104, 86930), (107, 86987), (118, 87098), (119, 87170), (121, 87176), (125, 87206),

Gene: Dallas_167 Start: 88921, Stop: 90081, Start Num: 6
Candidate Starts for Dallas_167:
(Start: 6 @88921 has 39 MA's), (10, 88939), (13, 88963), (24, 89047), (25, 89077), (43, 89200), (48, 89236), (53, 89293), (54, 89296), (59, 89326), (61, 89344), (68, 89425), (74, 89503), (75, 89512), (76, 89518), (94, 89710), (99, 89746), (104, 89782), (107, 89839), (118, 89950), (119, 90022), (121, 90028), (125, 90058),

Gene: DejaVu_32 Start: 9801, Stop: 10997, Start Num: 15
Candidate Starts for DejaVu_32:
(1, 9651), (2, 9675), (4, 9729), (Start: 8 @9747 has 1 MA's), (Start: 15 @9801 has 13 MA's), (23, 9867), (29, 9966), (31, 9981), (34, 10008), (36, 10023), (38, 10038), (60, 10248), (67, 10320), (76, 10443), (83, 10503), (87, 10515), (101, 10686), (108, 10788), (128, 10992),

Gene: DmpstrDiver_168 Start: 88616, Stop: 89776, Start Num: 6
Candidate Starts for DmpstrDiver_168:
(Start: 6 @88616 has 39 MA's), (10, 88634), (13, 88658), (18, 88691), (24, 88742), (25, 88772), (43, 88895), (48, 88931), (53, 88988), (54, 88991), (59, 89021), (61, 89039), (68, 89120), (74, 89198), (75, 89207), (76, 89213), (94, 89405), (99, 89441), (104, 89477), (107, 89534), (109, 89552), (113, 89570), (118, 89645), (119, 89717), (121, 89723), (125, 89753),

Gene: Dove_154 Start: 84284, Stop: 85444, Start Num: 6
Candidate Starts for Dove_154:
(Start: 6 @84284 has 39 MA's), (10, 84302), (13, 84326), (24, 84410), (25, 84440), (43, 84563), (48, 84599), (53, 84656), (54, 84659), (59, 84689), (61, 84707), (68, 84788), (69, 84800), (74, 84866), (76, 84881), (81, 84914), (94, 85073), (99, 85109), (104, 85145), (107, 85202), (118, 85313), (119, 85385), (121, 85391), (125, 85421),

Gene: Duke13_170 Start: 89039, Stop: 90199, Start Num: 6
Candidate Starts for Duke13_170:
(Start: 6 @89039 has 39 MA's), (10, 89057), (13, 89081), (24, 89165), (25, 89195), (43, 89318), (48, 89354), (53, 89411), (54, 89414), (59, 89444), (61, 89462), (68, 89543), (74, 89621), (75, 89630), (76, 89636), (94, 89828), (99, 89864), (104, 89900), (107, 89957), (118, 90068), (119, 90140), (121, 90146), (125, 90176),

Gene: Ejimix_158 Start: 87909, Stop: 89069, Start Num: 6
Candidate Starts for Ejimix_158:
(Start: 6 @87909 has 39 MA's), (10, 87927), (13, 87951), (24, 88035), (25, 88065), (43, 88188), (48, 88224), (53, 88281), (54, 88284), (59, 88314), (61, 88332), (68, 88413), (74, 88491), (75, 88500), (76, 88506), (94, 88698), (99, 88734), (104, 88770), (107, 88827), (118, 88938), (119, 89010), (121, 89016), (125, 89046),

Gene: EricMillard_165 Start: 89515, Stop: 90675, Start Num: 6
Candidate Starts for EricMillard_165:
(Start: 6 @89515 has 39 MA's), (10, 89533), (13, 89557), (24, 89641), (25, 89671), (43, 89794), (48, 89830), (53, 89887), (54, 89890), (59, 89920), (61, 89938), (68, 90019), (74, 90097), (75, 90106), (76, 90112), (81, 90145), (94, 90304), (99, 90340), (104, 90376), (107, 90433), (118, 90544), (119, 90616), (121, 90622), (125, 90652),

Gene: Footloose_65 Start: 36578, Stop: 37732, Start Num: 14
Candidate Starts for Footloose_65:
(Start: 14 @36578 has 1 MA's), (30, 36758), (32, 36764), (42, 36815), (49, 36881), (51, 36941), (56, 36956), (57, 36965), (63, 37028), (69, 37091), (71, 37133), (72, 37148), (73, 37154), (75, 37166), (82, 37208), (85, 37235), (89, 37310), (97, 37382), (104, 37430), (105, 37433), (108, 37499), (110, 37505), (112, 37523), (118, 37601), (125, 37709), (127, 37724),

Gene: GodonK_75 Start: 35421, Stop: 36566, Start Num: 11
Candidate Starts for GodonK_75:
(Start: 5 @35394 has 1 MA's), (7, 35400), (Start: 11 @35421 has 1 MA's), (51, 35772), (62, 35838), (64, 35871), (68, 35910), (75, 35997), (76, 36003), (81, 36036), (82, 36039), (86, 36066), (90, 36159), (93, 36186), (94, 36192), (96, 36204), (110, 36339), (115, 36387), (117, 36411), (119, 36507), (126, 36552),

Gene: Gonephishing_161 Start: 86826, Stop: 88046, Start Num: 6
Candidate Starts for Gonephishing_161:
(Start: 6 @86826 has 39 MA's), (Start: 14 @86874 has 1 MA's), (35, 87075), (41, 87126), (45, 87174), (48, 87201), (53, 87258), (54, 87261), (59, 87291), (61, 87309), (68, 87390), (74, 87468), (75, 87477), (76, 87483), (81, 87516), (94, 87675), (99, 87711), (104, 87747), (107, 87804), (118, 87915), (119, 87987), (121, 87993), (125, 88023),

Gene: Halley_168 Start: 88225, Stop: 89385, Start Num: 6
Candidate Starts for Halley_168:
(Start: 6 @88225 has 39 MA's), (10, 88243), (13, 88267), (24, 88351), (25, 88381), (43, 88504), (48, 88540), (53, 88597), (54, 88600), (59, 88630), (61, 88648), (68, 88729), (74, 88807), (75, 88816), (76, 88822), (94, 89014), (99, 89050), (104, 89086), (107, 89143), (118, 89254), (119, 89326), (121, 89332), (125, 89362),

Gene: Hannaconda_160 Start: 88747, Stop: 89967, Start Num: 6
Candidate Starts for Hannaconda_160:
(Start: 6 @88747 has 39 MA's), (Start: 14 @88795 has 1 MA's), (35, 88996), (41, 89047), (45, 89095), (48, 89122), (53, 89179), (54, 89182), (59, 89212), (61, 89230), (68, 89311), (74, 89389), (75, 89398), (76, 89404), (81, 89437), (94, 89596), (99, 89632), (104, 89668), (107, 89725), (118, 89836), (119, 89908), (121, 89914), (125, 89944),

Gene: HokkenD_162 Start: 90006, Stop: 91166, Start Num: 6
Candidate Starts for HokkenD_162:
(Start: 6 @90006 has 39 MA's), (10, 90024), (13, 90048), (24, 90132), (25, 90162), (43, 90285), (48, 90321), (53, 90378), (54, 90381), (59, 90411), (61, 90429), (68, 90510), (69, 90522), (74, 90588), (76, 90603), (81, 90636), (94, 90795), (99, 90831), (104, 90867), (107, 90924), (118, 91035), (119, 91107), (121, 91113), (125, 91143),

Gene: Hortus1_29 Start: 9568, Stop: 10761, Start Num: 15
Candidate Starts for Hortus1_29:

(Start: 15 @9568 has 13 MA's), (29, 9733), (34, 9775), (38, 9805), (56, 9979), (67, 10087), (70, 10141), (76, 10210), (87, 10282), (88, 10336), (91, 10384), (95, 10420), (98, 10435), (100, 10447), (108, 10552), (124, 10735),

Gene: Hubbs_31 Start: 10013, Stop: 11209, Start Num: 15
Candidate Starts for Hubbs_31:
(1, 9863), (2, 9887), (4, 9941), (Start: 8 @9959 has 1 MA's), (Start: 15 @10013 has 13 MA's), (23, 10079), (29, 10178), (31, 10193), (34, 10220), (36, 10235), (38, 10250), (60, 10460), (67, 10532), (83, 10715), (87, 10727), (101, 10898), (108, 11000), (128, 11204),

Gene: Hughesyang_166 Start: 88707, Stop: 89867, Start Num: 6
Candidate Starts for Hughesyang_166:
(Start: 6 @88707 has 39 MA's), (10, 88725), (13, 88749), (24, 88833), (25, 88863), (43, 88986), (48, 89022), (53, 89079), (54, 89082), (59, 89112), (61, 89130), (68, 89211), (74, 89289), (75, 89298), (76, 89304), (81, 89337), (94, 89496), (99, 89532), (104, 89568), (107, 89625), (118, 89736), (119, 89808), (121, 89814), (125, 89844),

Gene: Jacko_33 Start: 10099, Stop: 11292, Start Num: 15
Candidate Starts for Jacko_33:
(Start: 15 @10099 has 13 MA's), (23, 10165), (28, 10240), (29, 10264), (34, 10306), (38, 10336), (53, 10501), (56, 10510), (70, 10672), (71, 10702), (85, 10807), (87, 10813), (88, 10867), (95, 10951), (101, 10981), (102, 10984), (104, 11011), (108, 11083), (114, 11113), (122, 11248), (128, 11287),

Gene: JuicyJay_162 Start: 89653, Stop: 90813, Start Num: 6
Candidate Starts for JuicyJay_162:
(Start: 6 @89653 has 39 MA's), (10, 89671), (13, 89695), (24, 89779), (25, 89809), (43, 89932), (48, 89968), (53, 90025), (54, 90028), (59, 90058), (61, 90076), (68, 90157), (69, 90169), (74, 90235), (76, 90250), (81, 90283), (94, 90442), (99, 90478), (104, 90514), (107, 90571), (118, 90682), (119, 90754), (121, 90760), (125, 90790),

Gene: Kalah2_164 Start: 89991, Stop: 91151, Start Num: 6
Candidate Starts for Kalah2_164:
(Start: 6 @89991 has 39 MA's), (10, 90009), (13, 90033), (24, 90117), (25, 90147), (43, 90270), (48, 90306), (53, 90363), (54, 90366), (59, 90396), (61, 90414), (68, 90495), (74, 90573), (75, 90582), (76, 90588), (94, 90780), (99, 90816), (104, 90852), (107, 90909), (118, 91020), (119, 91092), (121, 91098), (125, 91128),

Gene: KashFlow_165 Start: 88560, Stop: 89780, Start Num: 6
Candidate Starts for KashFlow_165:
(Start: 6 @88560 has 39 MA's), (Start: 14 @88608 has 1 MA's), (35, 88809), (41, 88860), (45, 88908), (48, 88935), (53, 88992), (54, 88995), (59, 89025), (61, 89043), (64, 89085), (68, 89124), (74, 89202), (75, 89211), (76, 89217), (81, 89250), (94, 89409), (99, 89445), (104, 89481), (107, 89538), (118, 89649), (119, 89721), (121, 89727), (125, 89757),

Gene: Klein_171 Start: 88330, Stop: 89490, Start Num: 6
Candidate Starts for Klein_171:
(Start: 6 @88330 has 39 MA's), (10, 88348), (13, 88372), (24, 88456), (25, 88486), (43, 88609), (48, 88645), (53, 88702), (54, 88705), (59, 88735), (61, 88753), (68, 88834), (74, 88912), (75, 88921), (76, 88927), (81, 88960), (94, 89119), (99, 89155), (104, 89191), (107, 89248), (118, 89359), (119, 89431), (121, 89437), (125, 89467),

Gene: LittleE_175 Start: 89583, Stop: 90803, Start Num: 6
Candidate Starts for LittleE_175:

(Start: 6 @89583 has 39 MA's), (Start: 14 @89631 has 1 MA's), (35, 89832), (41, 89883), (45, 89931), (48, 89958), (53, 90015), (54, 90018), (59, 90048), (61, 90066), (64, 90108), (68, 90147), (74, 90225), (75, 90234), (76, 90240), (81, 90273), (94, 90432), (99, 90468), (104, 90504), (107, 90561), (118, 90672), (119, 90744), (121, 90750), (125, 90780),

Gene: Lucky2013_164 Start: 85080, Stop: 86300, Start Num: 6
Candidate Starts for Lucky2013_164:
(Start: 6 @85080 has 39 MA's), (Start: 14 @85128 has 1 MA's), (35, 85329), (41, 85380), (45, 85428), (48, 85455), (53, 85512), (54, 85515), (59, 85545), (61, 85563), (64, 85605), (68, 85644), (74, 85722), (75, 85731), (76, 85737), (81, 85770), (94, 85929), (99, 85965), (104, 86001), (107, 86058), (118, 86169), (119, 86241), (121, 86247), (125, 86277),

Gene: Lupine_30 Start: 9685, Stop: 10881, Start Num: 15
Candidate Starts for Lupine_30:
(1, 9535), (2, 9559), (4, 9613), (Start: 8 @9631 has 1 MA's), (Start: 15 @9685 has 13 MA's), (23, 9751), (29, 9850), (31, 9865), (34, 9892), (36, 9907), (38, 9922), (60, 10132), (67, 10204), (101, 10570), (108, 10672), (128, 10876),

Gene: Marleymoo_154 Start: 86843, Stop: 88003, Start Num: 6
Candidate Starts for Marleymoo_154:
(Start: 6 @86843 has 39 MA's), (10, 86861), (13, 86885), (18, 86918), (24, 86969), (25, 86999), (43, 87122), (48, 87158), (53, 87215), (54, 87218), (59, 87248), (61, 87266), (68, 87347), (74, 87425), (75, 87434), (76, 87440), (94, 87632), (99, 87668), (104, 87704), (107, 87761), (118, 87872), (119, 87944), (121, 87950), (125, 87980),

Gene: MiaZeal_171 Start: 86227, Stop: 87447, Start Num: 6
Candidate Starts for MiaZeal_171:
(Start: 6 @86227 has 39 MA's), (Start: 14 @86275 has 1 MA's), (41, 86527), (45, 86575), (48, 86602), (53, 86659), (54, 86662), (59, 86692), (61, 86710), (68, 86791), (74, 86869), (75, 86878), (76, 86884), (81, 86917), (94, 87076), (99, 87112), (104, 87148), (107, 87205), (118, 87316), (119, 87388), (121, 87394), (125, 87424),

Gene: Minerva_167 Start: 88071, Stop: 89231, Start Num: 6
Candidate Starts for Minerva_167:
(Start: 6 @88071 has 39 MA's), (10, 88089), (13, 88113), (24, 88197), (25, 88227), (43, 88350), (48, 88386), (53, 88443), (54, 88446), (59, 88476), (61, 88494), (68, 88575), (74, 88653), (75, 88662), (76, 88668), (94, 88860), (99, 88896), (104, 88932), (107, 88989), (118, 89100), (119, 89172), (121, 89178), (125, 89208),

Gene: Nekros_166 Start: 88027, Stop: 89247, Start Num: 6
Candidate Starts for Nekros_166:
(Start: 6 @88027 has 39 MA's), (Start: 14 @88075 has 1 MA's), (35, 88276), (41, 88327), (45, 88375), (48, 88402), (53, 88459), (54, 88462), (59, 88492), (61, 88510), (68, 88591), (74, 88669), (75, 88678), (76, 88684), (94, 88876), (99, 88912), (104, 88948), (107, 89005), (118, 89116), (119, 89188), (121, 89194), (125, 89224),

Gene: NihilNomen_169 Start: 87779, Stop: 88939, Start Num: 6
Candidate Starts for NihilNomen_169:
(Start: 6 @87779 has 39 MA's), (10, 87797), (13, 87821), (24, 87905), (25, 87935), (43, 88058), (48, 88094), (53, 88151), (54, 88154), (59, 88184), (61, 88202), (68, 88283), (69, 88295), (74, 88361), (76, 88376), (81, 88409), (94, 88568), (99, 88604), (104, 88640), (107, 88697), (118, 88808), (119, 88880), (121, 88886), (125, 88916),

Gene: Odette_171 Start: 90460, Stop: 91620, Start Num: 6
Candidate Starts for Odette_171:
(Start: 6 @90460 has 39 MA's), (10, 90478), (13, 90502), (24, 90586), (25, 90616), (43, 90739), (48, 90775), (53, 90832), (54, 90835), (59, 90865), (61, 90883), (68, 90964), (74, 91042), (75, 91051), (76, 91057), (94, 91249), (99, 91285), (104, 91321), (107, 91378), (118, 91489), (119, 91561), (121, 91567), (125, 91597),

Gene: OlinDD_29 Start: 9567, Stop: 10760, Start Num: 15
Candidate Starts for OlinDD_29:
(Start: 15 @9567 has 13 MA's), (29, 9732), (34, 9774), (38, 9804), (56, 9978), (67, 10086), (70, 10140), (76, 10209), (87, 10281), (88, 10335), (91, 10383), (95, 10419), (98, 10434), (100, 10446), (108, 10551), (124, 10734),

Gene: Olliecat_30 Start: 21912, Stop: 23192, Start Num: 3
Candidate Starts for Olliecat_30:
(Start: 3 @21912 has 3 MA's), (17, 22008), (26, 22116), (27, 22122), (37, 22200), (39, 22227), (40, 22230), (53, 22395), (58, 22419), (65, 22494), (66, 22500), (84, 22683), (87, 22692), (100, 22854), (102, 22860), (106, 22905), (116, 23022),

Gene: Omega_176 Start: 90554, Stop: 91774, Start Num: 6
Candidate Starts for Omega_176:
(Start: 6 @90554 has 39 MA's), (Start: 14 @90602 has 1 MA's), (35, 90803), (41, 90854), (45, 90902), (48, 90929), (53, 90986), (54, 90989), (59, 91019), (61, 91037), (68, 91118), (74, 91196), (75, 91205), (76, 91211), (81, 91244), (94, 91403), (99, 91439), (104, 91475), (107, 91532), (118, 91643), (119, 91715), (121, 91721), (125, 91751),

Gene: Optimus_166 Start: 88986, Stop: 90146, Start Num: 6
Candidate Starts for Optimus_166:
(Start: 6 @88986 has 39 MA's), (10, 89004), (13, 89028), (24, 89112), (25, 89142), (43, 89265), (48, 89301), (53, 89358), (54, 89361), (59, 89391), (61, 89409), (68, 89490), (74, 89568), (75, 89577), (76, 89583), (94, 89775), (99, 89811), (104, 89847), (107, 89904), (118, 90015), (119, 90087), (121, 90093), (125, 90123),

Gene: Pavlo_30 Start: 9960, Stop: 11156, Start Num: 15
Candidate Starts for Pavlo_30:
(1, 9810), (2, 9834), (4, 9888), (Start: 8 @9906 has 1 MA's), (Start: 15 @9960 has 13 MA's), (23, 10026), (29, 10125), (31, 10140), (34, 10167), (36, 10182), (38, 10197), (44, 10263), (60, 10407), (67, 10479), (83, 10662), (101, 10845), (108, 10947), (128, 11151),

Gene: Phendrix_73 Start: 35262, Stop: 36434, Start Num: 5
Candidate Starts for Phendrix_73:
(Start: 5 @35262 has 1 MA's), (7, 35268), (Start: 11 @35289 has 1 MA's), (46, 35571), (51, 35640), (62, 35706), (64, 35739), (68, 35778), (75, 35865), (76, 35871), (81, 35904), (86, 35934), (90, 36027), (93, 36054), (94, 36060), (96, 36072), (110, 36207), (115, 36255), (117, 36279), (119, 36375), (126, 36420),

Gene: PhillyPhilly_31 Start: 9865, Stop: 11061, Start Num: 15
Candidate Starts for PhillyPhilly_31:
(1, 9715), (2, 9739), (4, 9793), (Start: 8 @9811 has 1 MA's), (Start: 15 @9865 has 13 MA's), (23, 9931), (29, 10030), (31, 10045), (34, 10072), (36, 10087), (38, 10102), (60, 10312), (67, 10384), (83, 10567), (87, 10579), (101, 10750), (108, 10852), (128, 11056),

Gene: Phoebus_168 Start: 91466, Stop: 92626, Start Num: 6

Candidate Starts for Phoebus_168:
(Start: 6 @91466 has 39 MA's), (10, 91484), (13, 91508), (24, 91592), (25, 91622), (43, 91745), (48, 91781), (53, 91838), (54, 91841), (59, 91871), (61, 91889), (68, 91970), (74, 92048), (75, 92057), (76, 92063), (94, 92255), (99, 92291), (104, 92327), (107, 92384), (118, 92495), (119, 92567), (121, 92573), (125, 92603),

Gene: Pioneer3_29 Start: 9566, Stop: 10759, Start Num: 15
Candidate Starts for Pioneer3_29:
(Start: 15 @9566 has 13 MA's), (29, 9731), (34, 9773), (38, 9803), (56, 9977), (67, 10085), (70, 10139), (76, 10208), (87, 10280), (88, 10334), (95, 10418), (98, 10433), (100, 10445), (108, 10550), (124, 10733), (128, 10754),

Gene: Platte_29 Start: 9336, Stop: 10529, Start Num: 15
Candidate Starts for Platte_29:
(Start: 15 @9336 has 13 MA's), (29, 9501), (34, 9543), (38, 9573), (56, 9747), (67, 9855), (70, 9909), (76, 9978), (87, 10050), (88, 10104), (91, 10152), (95, 10188), (98, 10203), (100, 10215), (108, 10320), (124, 10503),

Gene: Porcelain_168 Start: 86026, Stop: 87246, Start Num: 6
Candidate Starts for Porcelain_168:
(Start: 6 @86026 has 39 MA's), (Start: 14 @86074 has 1 MA's), (35, 86275), (41, 86326), (45, 86374), (48, 86401), (53, 86458), (54, 86461), (59, 86491), (61, 86509), (64, 86551), (68, 86590), (74, 86668), (75, 86677), (76, 86683), (81, 86716), (94, 86875), (99, 86911), (104, 86947), (107, 87004), (118, 87115), (119, 87187), (121, 87193), (125, 87223),

Gene: Pound_161 Start: 87515, Stop: 88675, Start Num: 6
Candidate Starts for Pound_161:
(Start: 6 @87515 has 39 MA's), (10, 87533), (13, 87557), (18, 87590), (24, 87641), (25, 87671), (43, 87794), (48, 87830), (53, 87887), (54, 87890), (59, 87920), (61, 87938), (68, 88019), (74, 88097), (75, 88106), (76, 88112), (94, 88304), (99, 88340), (104, 88376), (107, 88433), (109, 88451), (113, 88469), (118, 88544), (119, 88616), (121, 88622), (125, 88652),

Gene: Rearden_167 Start: 86529, Stop: 87749, Start Num: 6
Candidate Starts for Rearden_167:
(Start: 6 @86529 has 39 MA's), (Start: 14 @86577 has 1 MA's), (20, 86625), (35, 86778), (41, 86829), (45, 86877), (48, 86904), (53, 86961), (54, 86964), (59, 86994), (61, 87012), (68, 87093), (74, 87171), (75, 87180), (76, 87186), (81, 87219), (94, 87378), (99, 87414), (104, 87450), (107, 87507), (118, 87618), (119, 87690), (121, 87696), (125, 87726),

Gene: Redno2_161 Start: 85579, Stop: 86739, Start Num: 6
Candidate Starts for Redno2_161:
(Start: 6 @85579 has 39 MA's), (10, 85597), (13, 85621), (24, 85705), (25, 85735), (43, 85858), (48, 85894), (53, 85951), (54, 85954), (59, 85984), (61, 86002), (68, 86083), (69, 86095), (74, 86161), (76, 86176), (81, 86209), (94, 86368), (99, 86404), (104, 86440), (107, 86497), (118, 86608), (119, 86680), (121, 86686), (125, 86716),

Gene: Roman_31 Start: 9806, Stop: 11056, Start Num: 8
Candidate Starts for Roman_31:
(1, 9710), (2, 9734), (4, 9788), (Start: 8 @9806 has 1 MA's), (Start: 15 @9860 has 13 MA's), (23, 9926), (29, 10025), (31, 10040), (34, 10067), (36, 10082), (38, 10097), (60, 10307), (67, 10379), (83, 10562), (87, 10574), (101, 10745), (108, 10847), (128, 11051),

Gene: Schatzie_162 Start: 88514, Stop: 89674, Start Num: 6

Candidate Starts for Schatzie_162:
(Start: 6 @88514 has 39 MA's), (10, 88532), (13, 88556), (24, 88640), (25, 88670), (43, 88793), (48, 88829), (53, 88886), (54, 88889), (59, 88919), (61, 88937), (68, 89018), (74, 89096), (75, 89105), (76, 89111), (94, 89303), (99, 89339), (104, 89375), (107, 89432), (118, 89543), (119, 89615), (121, 89621), (125, 89651),

Gene: Shaboozey_166 Start: 85632, Stop: 86852, Start Num: 6
Candidate Starts for Shaboozey_166:
(Start: 6 @85632 has 39 MA's), (Start: 14 @85680 has 1 MA's), (35, 85881), (41, 85932), (45, 85980), (48, 86007), (53, 86064), (54, 86067), (59, 86097), (61, 86115), (68, 86196), (74, 86274), (75, 86283), (76, 86289), (81, 86322), (94, 86481), (99, 86517), (104, 86553), (107, 86610), (118, 86721), (119, 86793), (121, 86799), (125, 86829),

Gene: Squint_163 Start: 86536, Stop: 87756, Start Num: 6
Candidate Starts for Squint_163:
(Start: 6 @86536 has 39 MA's), (Start: 14 @86584 has 1 MA's), (35, 86785), (41, 86836), (45, 86884), (48, 86911), (53, 86968), (54, 86971), (59, 87001), (61, 87019), (68, 87100), (74, 87178), (75, 87187), (76, 87193), (81, 87226), (94, 87385), (99, 87421), (104, 87457), (107, 87514), (118, 87625), (119, 87697), (121, 87703), (125, 87733),

Gene: Squircle_30 Start: 21911, Stop: 23191, Start Num: 3
Candidate Starts for Squircle_30:
(Start: 3 @21911 has 3 MA's), (17, 22007), (26, 22115), (27, 22121), (37, 22199), (39, 22226), (40, 22229), (53, 22394), (58, 22418), (65, 22493), (66, 22499), (84, 22682), (87, 22691), (100, 22853), (102, 22859), (106, 22904), (116, 23021),

Gene: Superphikiman_166 Start: 85705, Stop: 86925, Start Num: 6
Candidate Starts for Superphikiman_166:
(Start: 6 @85705 has 39 MA's), (Start: 14 @85753 has 1 MA's), (35, 85954), (41, 86005), (45, 86053), (48, 86080), (53, 86137), (54, 86140), (59, 86170), (61, 86188), (68, 86269), (74, 86347), (75, 86356), (76, 86362), (81, 86395), (94, 86554), (99, 86590), (104, 86626), (107, 86683), (118, 86794), (119, 86866), (121, 86872), (125, 86902),

Gene: Tandem_29 Start: 9505, Stop: 10698, Start Num: 15
Candidate Starts for Tandem_29:
(Start: 15 @9505 has 13 MA's), (29, 9670), (34, 9712), (38, 9742), (56, 9916), (67, 10024), (70, 10078), (76, 10147), (87, 10219), (88, 10273), (95, 10357), (98, 10372), (100, 10384), (108, 10489), (124, 10672), (128, 10693),

Gene: Thibault_151 Start: 85394, Stop: 86554, Start Num: 6
Candidate Starts for Thibault_151:
(Start: 6 @85394 has 39 MA's), (10, 85412), (13, 85436), (18, 85469), (24, 85520), (25, 85550), (43, 85673), (48, 85709), (53, 85766), (54, 85769), (59, 85799), (61, 85817), (68, 85898), (74, 85976), (75, 85985), (76, 85991), (94, 86183), (99, 86219), (104, 86255), (107, 86312), (118, 86423), (119, 86495), (121, 86501), (125, 86531),

Gene: ThreeRngTarjay_164 Start: 89388, Stop: 90548, Start Num: 6
Candidate Starts for ThreeRngTarjay_164:
(Start: 6 @89388 has 39 MA's), (10, 89406), (13, 89430), (24, 89514), (25, 89544), (43, 89667), (48, 89703), (53, 89760), (54, 89763), (59, 89793), (61, 89811), (68, 89892), (74, 89970), (75, 89979), (76, 89985), (94, 90177), (99, 90213), (104, 90249), (107, 90306), (118, 90417), (119, 90489), (121, 90495), (125, 90525),

Gene: Wanda_165 Start: 85979, Stop: 87139, Start Num: 6
Candidate Starts for Wanda_165:
(Start: 6 @85979 has 39 MA's), (10, 85997), (13, 86021), (24, 86105), (25, 86135), (43, 86258), (48, 86294), (53, 86351), (54, 86354), (59, 86384), (61, 86402), (68, 86483), (74, 86561), (75, 86570), (76, 86576), (94, 86768), (99, 86804), (104, 86840), (107, 86897), (118, 87008), (119, 87080), (121, 87086), (125, 87116),

Gene: Wolfstar_32 Start: 10365, Stop: 11558, Start Num: 15
Candidate Starts for Wolfstar_32:
(1, 10215), (2, 10239), (4, 10293), (Start: 8 @10311 has 1 MA's), (Start: 15 @10365 has 13 MA's), (23, 10431), (25, 10479), (38, 10602), (53, 10767), (56, 10776), (67, 10884), (83, 11067), (87, 11079), (88, 11133), (92, 11193), (95, 11217), (108, 11349), (128, 11553),

Gene: Yappy_76 Start: 36864, Stop: 35626, Start Num: 12
Candidate Starts for Yappy_76:
(9, 36876), (Start: 12 @36864 has 1 MA's), (16, 36825), (19, 36816), (21, 36789), (22, 36783), (27, 36705), (28, 36699), (33, 36648), (47, 36504), (50, 36483), (52, 36426), (55, 36417), (58, 36399), (69, 36279), (72, 36222), (75, 36204), (77, 36180), (79, 36171), (80, 36165), (90, 36039), (94, 36000), (100, 35964), (103, 35952), (111, 35838), (116, 35796), (120, 35682),

Gene: Yeet_159 Start: 87367, Stop: 88527, Start Num: 6
Candidate Starts for Yeet_159:
(Start: 6 @87367 has 39 MA's), (10, 87385), (13, 87409), (24, 87493), (25, 87523), (43, 87646), (48, 87682), (53, 87739), (54, 87742), (59, 87772), (61, 87790), (68, 87871), (69, 87883), (74, 87949), (76, 87964), (81, 87997), (94, 88156), (99, 88192), (104, 88228), (107, 88285), (118, 88396), (119, 88468), (121, 88474), (125, 88504),

Gene: Zelink_160 Start: 87702, Stop: 88862, Start Num: 6
Candidate Starts for Zelink_160:
(Start: 6 @87702 has 39 MA's), (10, 87720), (13, 87744), (24, 87828), (25, 87858), (43, 87981), (48, 88017), (53, 88074), (54, 88077), (59, 88107), (61, 88125), (68, 88206), (74, 88284), (75, 88293), (76, 88299), (94, 88491), (99, 88527), (104, 88563), (107, 88620), (118, 88731), (119, 88803), (121, 88809), (125, 88839),