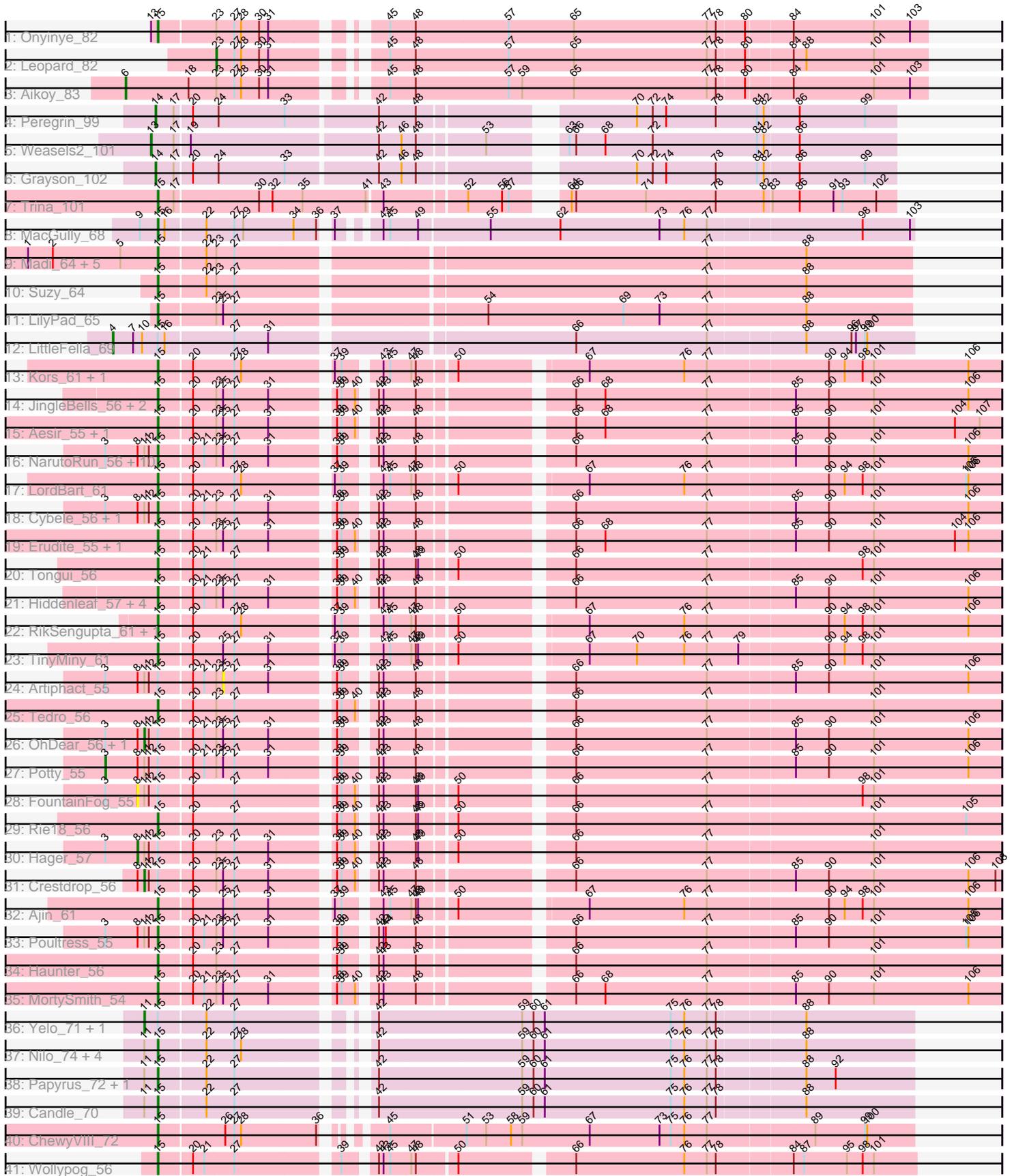# Pham 283752

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 283752 Report

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

Pham number 283752 has 74 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Onyinye_82
• Track 2 : Leopard_82
• Track 3 : Aikoy_83
• Track 4 : Peregrin_99
• Track 5 : Weasels2_101
• Track 6 : Grayson_102
• Track 7 : Trina_101
• Track 8 : MacGully_68
• Track 9 : Madi_64, BiteSize_64, Terapin_65, Beyoncage_64, Sienna_64, Djokovic_64
• Track 10 : Suzy_64
• Track 11 : LilyPad_65
• Track 12 : LittleFella_69
• Track 13 : Kors_61, Bramble_61
• Track 14 : JingleBells_56, FreddieHg_57, DannyDe_57
• Track 15 : Aesir_55, JDawG_55
• Track 16 : NarutoRun_56, Kate_56, Anakin_56, PhunaPhoke_56, Pharpay_55, AnnaSerena_56, Gilda_56, Karate_55, Krampus_56, OverHedge_55, Rachella_56
• Track 17 : LordBart_61
• Track 18 : Cybele_56, Neptune_56
• Track 19 : Erudite_55, Dauntless_55
• Track 20 : Tongui_56
• Track 21 : Hiddenleaf_57, Chivey_57, SilentWarrior_57, Annapurna_57, Snakehole_57
• Track 22 : RikSengupta_61, Sparcetus_61
• Track 23 : TinyMiny_61
• Track 24 : Artiphact_55
• Track 25 : Tedro_56
• Track 26 : OhDear_56, CoolCookie_55
• Track 27 : Potty_55
• Track 28 : FountainFog_55
• Track 29 : Rie18_56
• Track 30 : Hager_57
• Track 31 : Crestdrop_56
• Track 32 : Ajin_61
• Track 33 : Poultress_55
• Track 34 : Haunter_56

- Track 35 : MortySmith_54
- Track 36 : Yelo_71, MontyDev_74
- Track 37 : Nilo_74, Send513_72, Weiss13_72, Zenon_74, Riparian_74
- Track 38 : Papyrus_72, Rope_72
- Track 39 : Candle_70
- Track 40 : ChewyVIII_72
- Track 41 : Wollypog_56

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

The start number called the most often in the published annotations is 15, it was called in 58 of the 69 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Aesir_55, Ajin_61, Anakin_56, AnnaSerena_56, Annapurna_57, Beyoncage_64, BiteSize_64, Bramble_61, Candle_70, ChewyVIII_72, Chivey_57, Cybele_56, DannyDe_57, Dauntless_55, Djokovic_64, Erudite_55, FreddieHg_57, Gilda_56, Haunter_56, Hiddenleaf_57, JDawG_55, JingleBells_56, Karate_55, Kate_56, Kors_61, Krampus_56, LilyPad_65, LordBart_61, MacGully_68, Madi_64, MortySmith_54, NarutoRun_56, Neptune_56, Nilo_74, Onyinye_82, OverHedge_55, Papyrus_72, Pharpay_55, PhunaPhoke_56, Poultress_55, Rachella_56, Rie18_56, RikSengupta_61, Riparian_74, Rope_72, Send513_72, Sienna_64, SilentWarrior_57, Snakehole_57, Sparcetus_61, Suzy_64, Tedro_56, Terapin_65, TinyMiny_61, Tongui_56, Trina_101, Weiss13_72, Wollypog_56, Zenon_74,

Genes that have the "Most Annotated" start but do not call it:
- Artiphact_55, CoolCookie_55, Crestdrop_56, FountainFog_55, Hager_57, LittleFella_69, MontyDev_74, OhDear_56, Potty_55, Yelo_71,

Genes that do not have the "Most Annotated" start:
- Aikoy_83, Grayson_102, Leopard_82, Peregrin_99, Weasels2_101,

Summary by start number:

Start 3:
- Found in 20 of 74 (27.0%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Potty_55 (EF),

Start 4:
- Found in 1 of 74 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleFella_69 (DG2),

Start 6:
- Found in 1 of 74 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present

• Phage (with cluster) where this start called: Aikoy_83 (AE),

Start 8:
• Found in 21 of 74 (28.4%) of genes in pham
• Manual Annotations of this start: 1 of 69
• Called 9.5% of time when present
• Phage (with cluster) where this start called: FountainFog_55 (EF), Hager_57 (EF),

Start 11:
• Found in 31 of 74 (41.9%) of genes in pham
• Manual Annotations of this start: 3 of 69
• Called 16.1% of time when present
• Phage (with cluster) where this start called: CoolCookie_55 (EF), Crestdrop_56 (EF), MontyDev_74 (R), OhDear_56 (EF), Yelo_71 (R),

Start 13:
• Found in 2 of 74 (2.7%) of genes in pham
• Manual Annotations of this start: 1 of 69
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Weasels2_101 (CB),

Start 14:
• Found in 2 of 74 (2.7%) of genes in pham
• Manual Annotations of this start: 2 of 69
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Grayson_102 (CB), Peregrin_99 (CB),

Start 15:
• Found in 69 of 74 (93.2%) of genes in pham
• Manual Annotations of this start: 58 of 69
• Called 85.5% of time when present
• Phage (with cluster) where this start called: Aesir_55 (EF), Ajin_61 (EF), Anakin_56 (EF), AnnaSerena_56 (EF), Annapurna_57 (EF), Beyoncage_64 (DG1), BiteSize_64 (DG1), Bramble_61 (EF), Candle_70 (R), ChewyVIII_72 (singleton), Chivey_57 (EF), Cybele_56 (EF), DannyDe_57 (EF), Dauntless_55 (EF), Djokovic_64 (DG1), Erudite_55 (EF), FreddieHg_57 (EF), Gilda_56 (EF), Haunter_56 (EF), Hiddenleaf_57 (EF), JDawG_55 (EF), JingleBells_56 (EF), Karate_55 (EF), Kate_56 (EF), Kors_61 (EF), Krampus_56 (EF), LilyPad_65 (DG1), LordBart_61 (EF), MacGully_68 (CR7), Madi_64 (DG1), MortySmith_54 (EF), NarutoRun_56 (EF), Neptune_56 (EF), Nilo_74 (R), Onyinye_82 (AE), OverHedge_55 (EF), Papyrus_72 (R), Pharpay_55 (EF), PhunaPhoke_56 (EF), Poultress_55 (EF), Rachella_56 (EF), Rie18_56 (EF), RikSengupta_61 (EF), Riparian_74 (R), Rope_72 (R), Send513_72 (R), Sienna_64 (DG1), SilentWarrior_57 (EF), Snakehole_57 (EF), Sparcetus_61 (EF), Suzy_64 (DG1), Tedro_56 (EF), Terapin_65 (DG1), TinyMiny_61 (EF), Tongui_56 (EF), Trina_101 (CE), Weiss13_72 (R), Wollypog_56 (singleton), Zenon_74 (R),

Start 23:
• Found in 46 of 74 (62.2%) of genes in pham
• Manual Annotations of this start: 1 of 69
• Called 2.2% of time when present
• Phage (with cluster) where this start called: Leopard_82 (AE),

Start 25:

• Found in 33 of 74 (44.6%) of genes in pham
• No Manual Annotations of this start.
• Called 3.0% of time when present
• Phage (with cluster) where this start called: Artiphact_55 (EF),

Summary by clusters:

There are 9 clusters represented in this pham: singleton, AE, CR7, CB, EF, CE, DG2, DG1, R,

Info for manual annotations of cluster AE:
•Start number 6 was manually annotated 1 time for cluster AE.
•Start number 15 was manually annotated 1 time for cluster AE.
•Start number 23 was manually annotated 1 time for cluster AE.

Info for manual annotations of cluster CB:
•Start number 13 was manually annotated 1 time for cluster CB.
•Start number 14 was manually annotated 2 times for cluster CB.

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

Info for manual annotations of cluster CR7:
•Start number 15 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster DG1:
•Start number 15 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:
•Start number 4 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster EF:
•Start number 3 was manually annotated 1 time for cluster EF.
•Start number 8 was manually annotated 1 time for cluster EF.
•Start number 11 was manually annotated 2 times for cluster EF.
•Start number 15 was manually annotated 37 times for cluster EF.

Info for manual annotations of cluster R:
•Start number 11 was manually annotated 1 time for cluster R.
•Start number 15 was manually annotated 8 times for cluster R.

Gene Information:

Gene: Aesir_55 Start: 39851, Stop: 40888, Start Num: 15
Candidate Starts for Aesir_55:
(Start: 15 @39851 has 58 MA's), (20, 39893), (Start: 23 @39923 has 1 MA's), (25, 39932), (27, 39947), (31, 39992), (38, 40064), (39, 40070), (40, 40088), (42, 40103), (43, 40109), (48, 40151), (66, 40331), (68, 40370), (77, 40505), (85, 40616), (90, 40658), (101, 40718), (104, 40826), (107, 40859),

Gene: Aikoy_83 Start: 56542, Stop: 57543, Start Num: 6
Candidate Starts for Aikoy_83:

(Start: 6 @56542 has 1 MA's), (18, 56626), (Start: 23 @56662 has 1 MA's), (27, 56686), (28, 56695), (30, 56719), (31, 56731), (45, 56842), (48, 56875), (57, 56998), (59, 57016), (65, 57085), (77, 57262), (78, 57274), (80, 57310), (84, 57367), (101, 57472), (103, 57520),

Gene: Ajin_61 Start: 41302, Stop: 42336, Start Num: 15
Candidate Starts for Ajin_61:
(Start: 15 @41302 has 58 MA's), (20, 41344), (25, 41383), (27, 41398), (31, 41443), (37, 41512), (39, 41521), (43, 41560), (45, 41569), (47, 41596), (48, 41602), (49, 41605), (50, 41647), (67, 41797), (76, 41923), (77, 41953), (90, 42106), (94, 42127), (98, 42151), (101, 42166), (106, 42292),

Gene: Anakin_56 Start: 40186, Stop: 41223, Start Num: 15
Candidate Starts for Anakin_56:
(Start: 3 @40120 has 1 MA's), (Start: 8 @40159 has 1 MA's), (Start: 11 @40168 has 3 MA's), (12, 40174), (Start: 15 @40186 has 58 MA's), (20, 40228), (21, 40243), (Start: 23 @40258 has 1 MA's), (25, 40267), (27, 40282), (31, 40327), (38, 40399), (39, 40405), (42, 40438), (43, 40444), (48, 40486), (66, 40666), (77, 40840), (85, 40951), (90, 40993), (101, 41053), (106, 41179),

Gene: AnnaSerena_56 Start: 40220, Stop: 41257, Start Num: 15
Candidate Starts for AnnaSerena_56:
(Start: 3 @40154 has 1 MA's), (Start: 8 @40193 has 1 MA's), (Start: 11 @40202 has 3 MA's), (12, 40208), (Start: 15 @40220 has 58 MA's), (20, 40262), (21, 40277), (Start: 23 @40292 has 1 MA's), (25, 40301), (27, 40316), (31, 40361), (38, 40433), (39, 40439), (42, 40472), (43, 40478), (48, 40520), (66, 40700), (77, 40874), (85, 40985), (90, 41027), (101, 41087), (106, 41213),

Gene: Annapurna_57 Start: 39697, Stop: 40734, Start Num: 15
Candidate Starts for Annapurna_57:
(Start: 15 @39697 has 58 MA's), (20, 39739), (21, 39754), (Start: 23 @39769 has 1 MA's), (25, 39778), (27, 39793), (31, 39838), (38, 39910), (39, 39916), (40, 39934), (42, 39949), (43, 39955), (48, 39997), (66, 40177), (77, 40351), (85, 40462), (90, 40504), (101, 40564), (106, 40690),

Gene: Artiphact_55 Start: 40291, Stop: 41247, Start Num: 25
Candidate Starts for Artiphact_55:
(Start: 3 @40144 has 1 MA's), (Start: 8 @40183 has 1 MA's), (Start: 11 @40192 has 3 MA's), (12, 40198), (Start: 15 @40210 has 58 MA's), (20, 40252), (21, 40267), (Start: 23 @40282 has 1 MA's), (25, 40291), (27, 40306), (31, 40351), (38, 40423), (39, 40429), (42, 40462), (43, 40468), (48, 40510), (66, 40690), (77, 40864), (85, 40975), (90, 41017), (101, 41077), (106, 41203),

Gene: Beyoncage_64 Start: 46519, Stop: 47475, Start Num: 15
Candidate Starts for Beyoncage_64:
(1, 46348), (2, 46381), (5, 46471), (Start: 15 @46519 has 58 MA's), (22, 46579), (Start: 23 @46591 has 1 MA's), (27, 46615), (77, 47209), (88, 47335),

Gene: BiteSize_64 Start: 46605, Stop: 47561, Start Num: 15
Candidate Starts for BiteSize_64:
(1, 46434), (2, 46467), (5, 46557), (Start: 15 @46605 has 58 MA's), (22, 46665), (Start: 23 @46677 has 1 MA's), (27, 46701), (77, 47295), (88, 47421),

Gene: Bramble_61 Start: 41314, Stop: 42348, Start Num: 15
Candidate Starts for Bramble_61:
(Start: 15 @41314 has 58 MA's), (20, 41356), (27, 41410), (28, 41419), (37, 41524), (39, 41533), (43, 41572), (45, 41581), (47, 41608), (48, 41614), (50, 41659), (67, 41809), (76, 41935), (77, 41965), (90, 42118), (94, 42139), (98, 42163), (101, 42178), (106, 42304),

Gene: Candle_70 Start: 54612, Stop: 55547, Start Num: 15
Candidate Starts for Candle_70:
(Start: 11 @54594 has 3 MA's), (Start: 15 @54612 has 58 MA's), (22, 54672), (27, 54708), (42, 54849), (59, 55038), (60, 55053), (61, 55068), (75, 55236), (76, 55254), (77, 55284), (78, 55296), (88, 55404),

Gene: ChewyVIII_72 Start: 53378, Stop: 52446, Start Num: 15
Candidate Starts for ChewyVIII_72:
(Start: 15 @53378 has 58 MA's), (26, 53294), (27, 53282), (28, 53273), (36, 53174), (45, 53126), (51, 53030), (53, 53006), (58, 52973), (59, 52958), (67, 52868), (73, 52775), (75, 52760), (76, 52742), (77, 52712), (89, 52577), (99, 52511), (100, 52508),

Gene: Chivey_57 Start: 39651, Stop: 40688, Start Num: 15
Candidate Starts for Chivey_57:
(Start: 15 @39651 has 58 MA's), (20, 39693), (21, 39708), (Start: 23 @39723 has 1 MA's), (25, 39732), (27, 39747), (31, 39792), (38, 39864), (39, 39870), (40, 39888), (42, 39903), (43, 39909), (48, 39951), (66, 40131), (77, 40305), (85, 40416), (90, 40458), (101, 40518), (106, 40644),

Gene: CoolCookie_55 Start: 40213, Stop: 41268, Start Num: 11
Candidate Starts for CoolCookie_55:
(Start: 3 @40165 has 1 MA's), (Start: 8 @40204 has 1 MA's), (Start: 11 @40213 has 3 MA's), (12, 40219), (Start: 15 @40231 has 58 MA's), (20, 40273), (21, 40288), (Start: 23 @40303 has 1 MA's), (25, 40312), (27, 40327), (31, 40372), (38, 40444), (39, 40450), (42, 40483), (43, 40489), (48, 40531), (66, 40711), (77, 40885), (85, 40996), (90, 41038), (101, 41098), (106, 41224),

Gene: Crestdrop_56 Start: 39910, Stop: 40962, Start Num: 11
Candidate Starts for Crestdrop_56:
(Start: 8 @39901 has 1 MA's), (Start: 11 @39910 has 3 MA's), (12, 39916), (Start: 15 @39925 has 58 MA's), (20, 39967), (Start: 23 @39997 has 1 MA's), (25, 40006), (27, 40021), (31, 40066), (38, 40138), (39, 40144), (40, 40162), (42, 40177), (43, 40183), (48, 40225), (66, 40405), (77, 40579), (85, 40690), (90, 40732), (101, 40792), (106, 40918), (108, 40954),

Gene: Cybele_56 Start: 40204, Stop: 41241, Start Num: 15
Candidate Starts for Cybele_56:
(Start: 3 @40138 has 1 MA's), (Start: 8 @40177 has 1 MA's), (Start: 11 @40186 has 3 MA's), (12, 40192), (Start: 15 @40204 has 58 MA's), (20, 40246), (21, 40261), (Start: 23 @40276 has 1 MA's), (27, 40300), (31, 40345), (38, 40417), (39, 40423), (42, 40456), (43, 40462), (48, 40504), (66, 40684), (77, 40858), (85, 40969), (90, 41011), (101, 41071), (106, 41197),

Gene: DannyDe_57 Start: 39652, Stop: 40689, Start Num: 15
Candidate Starts for DannyDe_57:
(Start: 15 @39652 has 58 MA's), (20, 39694), (Start: 23 @39724 has 1 MA's), (25, 39733), (27, 39748), (31, 39793), (38, 39865), (39, 39871), (40, 39889), (42, 39904), (43, 39910), (48, 39952), (66, 40132), (68, 40171), (77, 40306), (85, 40417), (90, 40459), (101, 40519), (106, 40645),

Gene: Dauntless_55 Start: 39786, Stop: 40823, Start Num: 15
Candidate Starts for Dauntless_55:
(Start: 15 @39786 has 58 MA's), (20, 39828), (Start: 23 @39858 has 1 MA's), (25, 39867), (27, 39882), (31, 39927), (38, 39999), (39, 40005), (40, 40023), (42, 40038), (43, 40044), (48, 40086), (66, 40266), (68, 40305), (77, 40440), (85, 40551), (90, 40593), (101, 40653), (104, 40761), (106, 40779),

Gene: Djokovic_64 Start: 46518, Stop: 47474, Start Num: 15
Candidate Starts for Djokovic_64:

(1, 46347), (2, 46380), (5, 46470), (Start: 15 @46518 has 58 MA's), (22, 46578), (Start: 23 @46590 has 1 MA's), (27, 46614), (77, 47208), (88, 47334),

Gene: Erudite_55 Start: 39786, Stop: 40823, Start Num: 15
Candidate Starts for Erudite_55:
(Start: 15 @39786 has 58 MA's), (20, 39828), (Start: 23 @39858 has 1 MA's), (25, 39867), (27, 39882), (31, 39927), (38, 39999), (39, 40005), (40, 40023), (42, 40038), (43, 40044), (48, 40086), (66, 40266), (68, 40305), (77, 40440), (85, 40551), (90, 40593), (101, 40653), (104, 40761), (106, 40779),

Gene: FountainFog_55 Start: 39409, Stop: 40470, Start Num: 8
Candidate Starts for FountainFog_55:
(Start: 3 @39370 has 1 MA's), (Start: 8 @39409 has 1 MA's), (Start: 11 @39418 has 3 MA's), (12, 39424), (Start: 15 @39433 has 58 MA's), (20, 39475), (27, 39529), (38, 39646), (39, 39652), (40, 39670), (42, 39685), (43, 39691), (48, 39733), (49, 39736), (50, 39778), (66, 39913), (77, 40087), (98, 40285), (101, 40300),

Gene: FreddieHg_57 Start: 39668, Stop: 40705, Start Num: 15
Candidate Starts for FreddieHg_57:
(Start: 15 @39668 has 58 MA's), (20, 39710), (Start: 23 @39740 has 1 MA's), (25, 39749), (27, 39764), (31, 39809), (38, 39881), (39, 39887), (40, 39905), (42, 39920), (43, 39926), (48, 39968), (66, 40148), (68, 40187), (77, 40322), (85, 40433), (90, 40475), (101, 40535), (106, 40661),

Gene: Gilda_56 Start: 40207, Stop: 41244, Start Num: 15
Candidate Starts for Gilda_56:
(Start: 3 @40141 has 1 MA's), (Start: 8 @40180 has 1 MA's), (Start: 11 @40189 has 3 MA's), (12, 40195), (Start: 15 @40207 has 58 MA's), (20, 40249), (21, 40264), (Start: 23 @40279 has 1 MA's), (25, 40288), (27, 40303), (31, 40348), (38, 40420), (39, 40426), (42, 40459), (43, 40465), (48, 40507), (66, 40687), (77, 40861), (85, 40972), (90, 41014), (101, 41074), (106, 41200),

Gene: Grayson_102 Start: 62069, Stop: 62980, Start Num: 14
Candidate Starts for Grayson_102:
(Start: 14 @62069 has 2 MA's), (17, 62093), (20, 62114), (24, 62147), (33, 62234), (42, 62351), (46, 62381), (48, 62399), (70, 62639), (72, 62660), (74, 62678), (78, 62744), (81, 62798), (82, 62807), (86, 62852), (99, 62939),

Gene: Hager_57 Start: 39575, Stop: 40636, Start Num: 8
Candidate Starts for Hager_57:
(Start: 3 @39536 has 1 MA's), (Start: 8 @39575 has 1 MA's), (Start: 11 @39584 has 3 MA's), (12, 39590), (Start: 15 @39599 has 58 MA's), (20, 39641), (Start: 23 @39671 has 1 MA's), (27, 39695), (31, 39740), (38, 39812), (39, 39818), (40, 39836), (42, 39851), (43, 39857), (48, 39899), (49, 39902), (50, 39944), (66, 40079), (77, 40253), (101, 40466),

Gene: Haunter_56 Start: 39424, Stop: 40461, Start Num: 15
Candidate Starts for Haunter_56:
(Start: 15 @39424 has 58 MA's), (20, 39466), (Start: 23 @39496 has 1 MA's), (27, 39520), (38, 39637), (39, 39643), (42, 39676), (43, 39682), (48, 39724), (66, 39904), (77, 40078), (101, 40291),

Gene: Hiddenleaf_57 Start: 39651, Stop: 40688, Start Num: 15
Candidate Starts for Hiddenleaf_57:
(Start: 15 @39651 has 58 MA's), (20, 39693), (21, 39708), (Start: 23 @39723 has 1 MA's), (25, 39732), (27, 39747), (31, 39792), (38, 39864), (39, 39870), (40, 39888), (42, 39903), (43, 39909), (48, 39951), (66, 40131), (77, 40305), (85, 40416), (90, 40458), (101, 40518), (106, 40644),

Gene: JDawG_55 Start: 39846, Stop: 40883, Start Num: 15
Candidate Starts for JDawG_55:
(Start: 15 @39846 has 58 MA's), (20, 39888), (Start: 23 @39918 has 1 MA's), (25, 39927), (27, 39942), (31, 39987), (38, 40059), (39, 40065), (40, 40083), (42, 40098), (43, 40104), (48, 40146), (66, 40326), (68, 40365), (77, 40500), (85, 40611), (90, 40653), (101, 40713), (104, 40821), (107, 40854),

Gene: JingleBells_56 Start: 39760, Stop: 40797, Start Num: 15
Candidate Starts for JingleBells_56:
(Start: 15 @39760 has 58 MA's), (20, 39802), (Start: 23 @39832 has 1 MA's), (25, 39841), (27, 39856), (31, 39901), (38, 39973), (39, 39979), (40, 39997), (42, 40012), (43, 40018), (48, 40060), (66, 40240), (68, 40279), (77, 40414), (85, 40525), (90, 40567), (101, 40627), (106, 40753),

Gene: Karate_55 Start: 40024, Stop: 41061, Start Num: 15
Candidate Starts for Karate_55:
(Start: 3 @39958 has 1 MA's), (Start: 8 @39997 has 1 MA's), (Start: 11 @40006 has 3 MA's), (12, 40012), (Start: 15 @40024 has 58 MA's), (20, 40066), (21, 40081), (Start: 23 @40096 has 1 MA's), (25, 40105), (27, 40120), (31, 40165), (38, 40237), (39, 40243), (42, 40276), (43, 40282), (48, 40324), (66, 40504), (77, 40678), (85, 40789), (90, 40831), (101, 40891), (106, 41017),

Gene: Kate_56 Start: 40125, Stop: 41162, Start Num: 15
Candidate Starts for Kate_56:
(Start: 3 @40059 has 1 MA's), (Start: 8 @40098 has 1 MA's), (Start: 11 @40107 has 3 MA's), (12, 40113), (Start: 15 @40125 has 58 MA's), (20, 40167), (21, 40182), (Start: 23 @40197 has 1 MA's), (25, 40206), (27, 40221), (31, 40266), (38, 40338), (39, 40344), (42, 40377), (43, 40383), (48, 40425), (66, 40605), (77, 40779), (85, 40890), (90, 40932), (101, 40992), (106, 41118),

Gene: Kors_61 Start: 41387, Stop: 42421, Start Num: 15
Candidate Starts for Kors_61:
(Start: 15 @41387 has 58 MA's), (20, 41429), (27, 41483), (28, 41492), (37, 41597), (39, 41606), (43, 41645), (45, 41654), (47, 41681), (48, 41687), (50, 41732), (67, 41882), (76, 42008), (77, 42038), (90, 42191), (94, 42212), (98, 42236), (101, 42251), (106, 42377),

Gene: Krampus_56 Start: 40221, Stop: 41258, Start Num: 15
Candidate Starts for Krampus_56:
(Start: 3 @40155 has 1 MA's), (Start: 8 @40194 has 1 MA's), (Start: 11 @40203 has 3 MA's), (12, 40209), (Start: 15 @40221 has 58 MA's), (20, 40263), (21, 40278), (Start: 23 @40293 has 1 MA's), (25, 40302), (27, 40317), (31, 40362), (38, 40434), (39, 40440), (42, 40473), (43, 40479), (48, 40521), (66, 40701), (77, 40875), (85, 40986), (90, 41028), (101, 41088), (106, 41214),

Gene: Leopard_82 Start: 56960, Stop: 57841, Start Num: 23
Candidate Starts for Leopard_82:
(Start: 23 @56960 has 1 MA's), (27, 56984), (28, 56993), (30, 57017), (31, 57029), (45, 57140), (48, 57173), (57, 57296), (65, 57383), (77, 57560), (78, 57572), (80, 57608), (84, 57665), (88, 57680), (101, 57770),

Gene: LilyPad_65 Start: 47373, Stop: 48329, Start Num: 15
Candidate Starts for LilyPad_65:
(Start: 15 @47373 has 58 MA's), (Start: 23 @47445 has 1 MA's), (25, 47454), (27, 47469), (54, 47772), (69, 47952), (73, 48000), (77, 48063), (88, 48189),

Gene: LittleFella_69 Start: 48061, Stop: 49074, Start Num: 4
Candidate Starts for LittleFella_69:

(Start: 4 @48061 has 1 MA's), (7, 48088), (10, 48100), (Start: 15 @48121 has 58 MA's), (16, 48130), (27, 48217), (31, 48262), (66, 48637), (77, 48811), (88, 48931), (96, 48991), (97, 48997), (99, 49009), (100, 49012),

Gene: LordBart_61 Start: 41284, Stop: 42318, Start Num: 15
Candidate Starts for LordBart_61:
(Start: 15 @41284 has 58 MA's), (20, 41326), (27, 41380), (28, 41389), (37, 41494), (39, 41503), (43, 41542), (45, 41551), (47, 41578), (48, 41584), (50, 41629), (67, 41779), (76, 41905), (77, 41935), (90, 42088), (94, 42109), (98, 42133), (101, 42148), (105, 42271), (106, 42274),

Gene: MacGully_68 Start: 48910, Stop: 47978, Start Num: 15
Candidate Starts for MacGully_68:
(9, 48934), (Start: 15 @48910 has 58 MA's), (16, 48901), (22, 48850), (27, 48814), (29, 48802), (34, 48736), (36, 48706), (37, 48700), (43, 48661), (45, 48652), (49, 48616), (55, 48529), (62, 48436), (73, 48304), (76, 48271), (77, 48241), (98, 48046), (103, 47983),

Gene: Madi_64 Start: 46596, Stop: 47552, Start Num: 15
Candidate Starts for Madi_64:
(1, 46425), (2, 46458), (5, 46548), (Start: 15 @46596 has 58 MA's), (22, 46656), (Start: 23 @46668 has 1 MA's), (27, 46692), (77, 47286), (88, 47412),

Gene: MontyDev_74 Start: 54234, Stop: 55187, Start Num: 11
Candidate Starts for MontyDev_74:
(Start: 11 @54234 has 3 MA's), (Start: 15 @54252 has 58 MA's), (22, 54312), (27, 54348), (42, 54489), (59, 54678), (60, 54693), (61, 54708), (75, 54876), (76, 54894), (77, 54924), (78, 54936), (88, 55044),

Gene: MortySmith_54 Start: 39260, Stop: 40297, Start Num: 15
Candidate Starts for MortySmith_54:
(Start: 15 @39260 has 58 MA's), (20, 39302), (21, 39317), (Start: 23 @39332 has 1 MA's), (25, 39341), (27, 39356), (31, 39401), (38, 39473), (39, 39479), (40, 39497), (42, 39512), (43, 39518), (48, 39560), (66, 39740), (68, 39779), (77, 39914), (85, 40025), (90, 40067), (101, 40127), (106, 40253),

Gene: NarutoRun_56 Start: 40186, Stop: 41223, Start Num: 15
Candidate Starts for NarutoRun_56:
(Start: 3 @40120 has 1 MA's), (Start: 8 @40159 has 1 MA's), (Start: 11 @40168 has 3 MA's), (12, 40174), (Start: 15 @40186 has 58 MA's), (20, 40228), (21, 40243), (Start: 23 @40258 has 1 MA's), (25, 40267), (27, 40282), (31, 40327), (38, 40399), (39, 40405), (42, 40438), (43, 40444), (48, 40486), (66, 40666), (77, 40840), (85, 40951), (90, 40993), (101, 41053), (106, 41179),

Gene: Neptune_56 Start: 40204, Stop: 41241, Start Num: 15
Candidate Starts for Neptune_56:
(Start: 3 @40138 has 1 MA's), (Start: 8 @40177 has 1 MA's), (Start: 11 @40186 has 3 MA's), (12, 40192), (Start: 15 @40204 has 58 MA's), (20, 40246), (21, 40261), (Start: 23 @40276 has 1 MA's), (27, 40300), (31, 40345), (38, 40417), (39, 40423), (42, 40456), (43, 40462), (48, 40504), (66, 40684), (77, 40858), (85, 40969), (90, 41011), (101, 41071), (106, 41197),

Gene: Nilo_74 Start: 54609, Stop: 55544, Start Num: 15
Candidate Starts for Nilo_74:
(Start: 11 @54591 has 3 MA's), (Start: 15 @54609 has 58 MA's), (22, 54669), (27, 54705), (28, 54714), (42, 54846), (59, 55035), (60, 55050), (61, 55065), (75, 55233), (76, 55251), (77, 55281), (78, 55293), (88, 55401),

Gene: OhDear_56 Start: 40166, Stop: 41221, Start Num: 11

Candidate Starts for OhDear_56:
(Start: 3 @40118 has 1 MA's), (Start: 8 @40157 has 1 MA's), (Start: 11 @40166 has 3 MA's), (12, 40172), (Start: 15 @40184 has 58 MA's), (20, 40226), (21, 40241), (Start: 23 @40256 has 1 MA's), (25, 40265), (27, 40280), (31, 40325), (38, 40397), (39, 40403), (42, 40436), (43, 40442), (48, 40484), (66, 40664), (77, 40838), (85, 40949), (90, 40991), (101, 41051), (106, 41177),

Gene: Onyinye_82 Start: 56383, Stop: 57336, Start Num: 15
Candidate Starts for Onyinye_82:
(Start: 13 @56374 has 1 MA's), (Start: 15 @56383 has 58 MA's), (Start: 23 @56455 has 1 MA's), (27, 56479), (28, 56488), (30, 56512), (31, 56524), (45, 56635), (48, 56668), (57, 56791), (65, 56878), (77, 57055), (78, 57067), (80, 57103), (84, 57160), (101, 57265), (103, 57313),

Gene: OverHedge_55 Start: 40083, Stop: 41120, Start Num: 15
Candidate Starts for OverHedge_55:
(Start: 3 @40017 has 1 MA's), (Start: 8 @40056 has 1 MA's), (Start: 11 @40065 has 3 MA's), (12, 40071), (Start: 15 @40083 has 58 MA's), (20, 40125), (21, 40140), (Start: 23 @40155 has 1 MA's), (25, 40164), (27, 40179), (31, 40224), (38, 40296), (39, 40302), (42, 40335), (43, 40341), (48, 40383), (66, 40563), (77, 40737), (85, 40848), (90, 40890), (101, 40950), (106, 41076),

Gene: Papyrus_72 Start: 54220, Stop: 55155, Start Num: 15
Candidate Starts for Papyrus_72:
(Start: 11 @54202 has 3 MA's), (Start: 15 @54220 has 58 MA's), (22, 54280), (27, 54316), (42, 54457), (59, 54646), (60, 54661), (61, 54676), (75, 54844), (76, 54862), (77, 54892), (78, 54904), (88, 55012), (92, 55051),

Gene: Peregrin_99 Start: 60436, Stop: 61347, Start Num: 14
Candidate Starts for Peregrin_99:
(Start: 14 @60436 has 2 MA's), (17, 60460), (20, 60481), (24, 60514), (33, 60601), (42, 60718), (48, 60766), (70, 61006), (72, 61027), (74, 61045), (78, 61111), (81, 61165), (82, 61174), (86, 61219), (99, 61306),

Gene: Pharpay_55 Start: 40231, Stop: 41268, Start Num: 15
Candidate Starts for Pharpay_55:
(Start: 3 @40165 has 1 MA's), (Start: 8 @40204 has 1 MA's), (Start: 11 @40213 has 3 MA's), (12, 40219), (Start: 15 @40231 has 58 MA's), (20, 40273), (21, 40288), (Start: 23 @40303 has 1 MA's), (25, 40312), (27, 40327), (31, 40372), (38, 40444), (39, 40450), (42, 40483), (43, 40489), (48, 40531), (66, 40711), (77, 40885), (85, 40996), (90, 41038), (101, 41098), (106, 41224),

Gene: PhunaPhoke_56 Start: 40201, Stop: 41238, Start Num: 15
Candidate Starts for PhunaPhoke_56:
(Start: 3 @40135 has 1 MA's), (Start: 8 @40174 has 1 MA's), (Start: 11 @40183 has 3 MA's), (12, 40189), (Start: 15 @40201 has 58 MA's), (20, 40243), (21, 40258), (Start: 23 @40273 has 1 MA's), (25, 40282), (27, 40297), (31, 40342), (38, 40414), (39, 40420), (42, 40453), (43, 40459), (48, 40501), (66, 40681), (77, 40855), (85, 40966), (90, 41008), (101, 41068), (106, 41194),

Gene: Potty_55 Start: 40065, Stop: 41168, Start Num: 3
Candidate Starts for Potty_55:
(Start: 3 @40065 has 1 MA's), (Start: 8 @40104 has 1 MA's), (Start: 11 @40113 has 3 MA's), (12, 40119), (Start: 15 @40131 has 58 MA's), (20, 40173), (21, 40188), (Start: 23 @40203 has 1 MA's), (25, 40212), (27, 40227), (31, 40272), (38, 40344), (39, 40350), (42, 40383), (43, 40389), (48, 40431), (66, 40611), (77, 40785), (85, 40896), (90, 40938), (101, 40998), (106, 41124),

Gene: Poultress_55 Start: 40428, Stop: 41465, Start Num: 15

Candidate Starts for Poultress_55:
(Start: 3 @40362 has 1 MA's), (Start: 8 @40401 has 1 MA's), (Start: 11 @40410 has 3 MA's), (12, 40416), (Start: 15 @40428 has 58 MA's), (20, 40470), (21, 40485), (Start: 23 @40500 has 1 MA's), (25, 40509), (27, 40524), (31, 40569), (38, 40641), (39, 40647), (42, 40680), (43, 40686), (44, 40689), (48, 40728), (66, 40908), (77, 41082), (85, 41193), (90, 41235), (101, 41295), (105, 41418), (106, 41421),

Gene: Rachella_56 Start: 40212, Stop: 41249, Start Num: 15
Candidate Starts for Rachella_56:
(Start: 3 @40146 has 1 MA's), (Start: 8 @40185 has 1 MA's), (Start: 11 @40194 has 3 MA's), (12, 40200), (Start: 15 @40212 has 58 MA's), (20, 40254), (21, 40269), (Start: 23 @40284 has 1 MA's), (25, 40293), (27, 40308), (31, 40353), (38, 40425), (39, 40431), (42, 40464), (43, 40470), (48, 40512), (66, 40692), (77, 40866), (85, 40977), (90, 41019), (101, 41079), (106, 41205),

Gene: Rie18_56 Start: 40001, Stop: 41038, Start Num: 15
Candidate Starts for Rie18_56:
(Start: 15 @40001 has 58 MA's), (20, 40043), (27, 40097), (38, 40214), (39, 40220), (40, 40238), (42, 40253), (43, 40259), (48, 40301), (49, 40304), (50, 40346), (66, 40481), (77, 40655), (101, 40868), (105, 40991),

Gene: RikSengupta_61 Start: 41415, Stop: 42449, Start Num: 15
Candidate Starts for RikSengupta_61:
(Start: 15 @41415 has 58 MA's), (20, 41457), (27, 41511), (28, 41520), (37, 41625), (39, 41634), (43, 41673), (45, 41682), (47, 41709), (48, 41715), (50, 41760), (67, 41910), (76, 42036), (77, 42066), (90, 42219), (94, 42240), (98, 42264), (101, 42279), (106, 42405),

Gene: Riparian_74 Start: 54056, Stop: 54991, Start Num: 15
Candidate Starts for Riparian_74:
(Start: 11 @54038 has 3 MA's), (Start: 15 @54056 has 58 MA's), (22, 54116), (27, 54152), (28, 54161), (42, 54293), (59, 54482), (60, 54497), (61, 54512), (75, 54680), (76, 54698), (77, 54728), (78, 54740), (88, 54848),

Gene: Rope_72 Start: 54212, Stop: 55147, Start Num: 15
Candidate Starts for Rope_72:
(Start: 11 @54194 has 3 MA's), (Start: 15 @54212 has 58 MA's), (22, 54272), (27, 54308), (42, 54449), (59, 54638), (60, 54653), (61, 54668), (75, 54836), (76, 54854), (77, 54884), (78, 54896), (88, 55004), (92, 55043),

Gene: Send513_72 Start: 54590, Stop: 55525, Start Num: 15
Candidate Starts for Send513_72:
(Start: 11 @54572 has 3 MA's), (Start: 15 @54590 has 58 MA's), (22, 54650), (27, 54686), (28, 54695), (42, 54827), (59, 55016), (60, 55031), (61, 55046), (75, 55214), (76, 55232), (77, 55262), (78, 55274), (88, 55382),

Gene: Sienna_64 Start: 46596, Stop: 47552, Start Num: 15
Candidate Starts for Sienna_64:
(1, 46425), (2, 46458), (5, 46548), (Start: 15 @46596 has 58 MA's), (22, 46656), (Start: 23 @46668 has 1 MA's), (27, 46692), (77, 47286), (88, 47412),

Gene: SilentWarrior_57 Start: 39621, Stop: 40658, Start Num: 15
Candidate Starts for SilentWarrior_57:
(Start: 15 @39621 has 58 MA's), (20, 39663), (21, 39678), (Start: 23 @39693 has 1 MA's), (25, 39702), (27, 39717), (31, 39762), (38, 39834), (39, 39840), (40, 39858), (42, 39873), (43, 39879), (48, 39921),

(66, 40101), (77, 40275), (85, 40386), (90, 40428), (101, 40488), (106, 40614),

Gene: Snakehole_57 Start: 39629, Stop: 40666, Start Num: 15
Candidate Starts for Snakehole_57:
(Start: 15 @39629 has 58 MA's), (20, 39671), (21, 39686), (Start: 23 @39701 has 1 MA's), (25, 39710), (27, 39725), (31, 39770), (38, 39842), (39, 39848), (40, 39866), (42, 39881), (43, 39887), (48, 39929), (66, 40109), (77, 40283), (85, 40394), (90, 40436), (101, 40496), (106, 40622),

Gene: Sparcetus_61 Start: 41292, Stop: 42326, Start Num: 15
Candidate Starts for Sparcetus_61:
(Start: 15 @41292 has 58 MA's), (20, 41334), (27, 41388), (28, 41397), (37, 41502), (39, 41511), (43, 41550), (45, 41559), (47, 41586), (48, 41592), (50, 41637), (67, 41787), (76, 41913), (77, 41943), (90, 42096), (94, 42117), (98, 42141), (101, 42156), (106, 42282),

Gene: Suzy_64 Start: 47789, Stop: 48745, Start Num: 15
Candidate Starts for Suzy_64:
(Start: 15 @47789 has 58 MA's), (22, 47849), (Start: 23 @47861 has 1 MA's), (27, 47885), (77, 48479), (88, 48605),

Gene: Tedro_56 Start: 39642, Stop: 40679, Start Num: 15
Candidate Starts for Tedro_56:
(Start: 15 @39642 has 58 MA's), (20, 39684), (Start: 23 @39714 has 1 MA's), (27, 39738), (38, 39855), (39, 39861), (40, 39879), (42, 39894), (43, 39900), (48, 39942), (66, 40122), (77, 40296), (101, 40509),

Gene: Terapin_65 Start: 46520, Stop: 47476, Start Num: 15
Candidate Starts for Terapin_65:
(1, 46349), (2, 46382), (5, 46472), (Start: 15 @46520 has 58 MA's), (22, 46580), (Start: 23 @46592 has 1 MA's), (27, 46616), (77, 47210), (88, 47336),

Gene: TinyMiny_61 Start: 41314, Stop: 42348, Start Num: 15
Candidate Starts for TinyMiny_61:
(Start: 15 @41314 has 58 MA's), (20, 41356), (25, 41395), (27, 41410), (31, 41455), (37, 41524), (39, 41533), (43, 41572), (45, 41581), (47, 41608), (48, 41614), (49, 41617), (50, 41659), (67, 41809), (70, 41872), (76, 41935), (77, 41965), (79, 42007), (90, 42118), (94, 42139), (98, 42163), (101, 42178),

Gene: Tongui_56 Start: 39916, Stop: 40953, Start Num: 15
Candidate Starts for Tongui_56:
(Start: 15 @39916 has 58 MA's), (20, 39958), (21, 39973), (27, 40012), (38, 40129), (39, 40135), (42, 40168), (43, 40174), (48, 40216), (49, 40219), (50, 40261), (66, 40396), (77, 40570), (98, 40768), (101, 40783),

Gene: Trina_101 Start: 67887, Stop: 68798, Start Num: 15
Candidate Starts for Trina_101:
(Start: 15 @67887 has 58 MA's), (17, 67908), (30, 68016), (32, 68034), (35, 68073), (41, 68157), (43, 68175), (52, 68274), (56, 68319), (57, 68328), (64, 68373), (66, 68379), (71, 68469), (78, 68562), (82, 68625), (83, 68634), (86, 68670), (91, 68715), (93, 68727), (102, 68772),

Gene: Weasels2_101 Start: 61576, Stop: 62493, Start Num: 13
Candidate Starts for Weasels2_101:
(Start: 13 @61576 has 1 MA's), (17, 61606), (19, 61624), (42, 61864), (46, 61894), (48, 61912), (53, 61993), (63, 62065), (66, 62074), (68, 62113), (72, 62173), (81, 62311), (82, 62320), (86, 62365),

Gene: Weiss13_72 Start: 54293, Stop: 55228, Start Num: 15

Candidate Starts for Weiss13_72:
(Start: 11 @54275 has 3 MA's), (Start: 15 @54293 has 58 MA's), (22, 54353), (27, 54389), (28, 54398), (42, 54530), (59, 54719), (60, 54734), (61, 54749), (75, 54917), (76, 54935), (77, 54965), (78, 54977), (88, 55085),

Gene: Wollypog_56 Start: 42579, Stop: 43505, Start Num: 15
Candidate Starts for Wollypog_56:
(Start: 15 @42579 has 58 MA's), (20, 42621), (21, 42636), (27, 42675), (39, 42798), (42, 42831), (43, 42837), (45, 42846), (47, 42873), (48, 42879), (50, 42927), (66, 43062), (76, 43206), (77, 43236), (78, 43248), (84, 43344), (87, 43356), (95, 43413), (98, 43434), (101, 43449),

Gene: Yelo_71 Start: 54654, Stop: 55607, Start Num: 11
Candidate Starts for Yelo_71:
(Start: 11 @54654 has 3 MA's), (Start: 15 @54672 has 58 MA's), (22, 54732), (27, 54768), (42, 54909), (59, 55098), (60, 55113), (61, 55128), (75, 55296), (76, 55314), (77, 55344), (78, 55356), (88, 55464),

Gene: Zenon_74 Start: 54616, Stop: 55551, Start Num: 15
Candidate Starts for Zenon_74:
(Start: 11 @54598 has 3 MA's), (Start: 15 @54616 has 58 MA's), (22, 54676), (27, 54712), (28, 54721), (42, 54853), (59, 55042), (60, 55057), (61, 55072), (75, 55240), (76, 55258), (77, 55288), (78, 55300), (88, 55408),