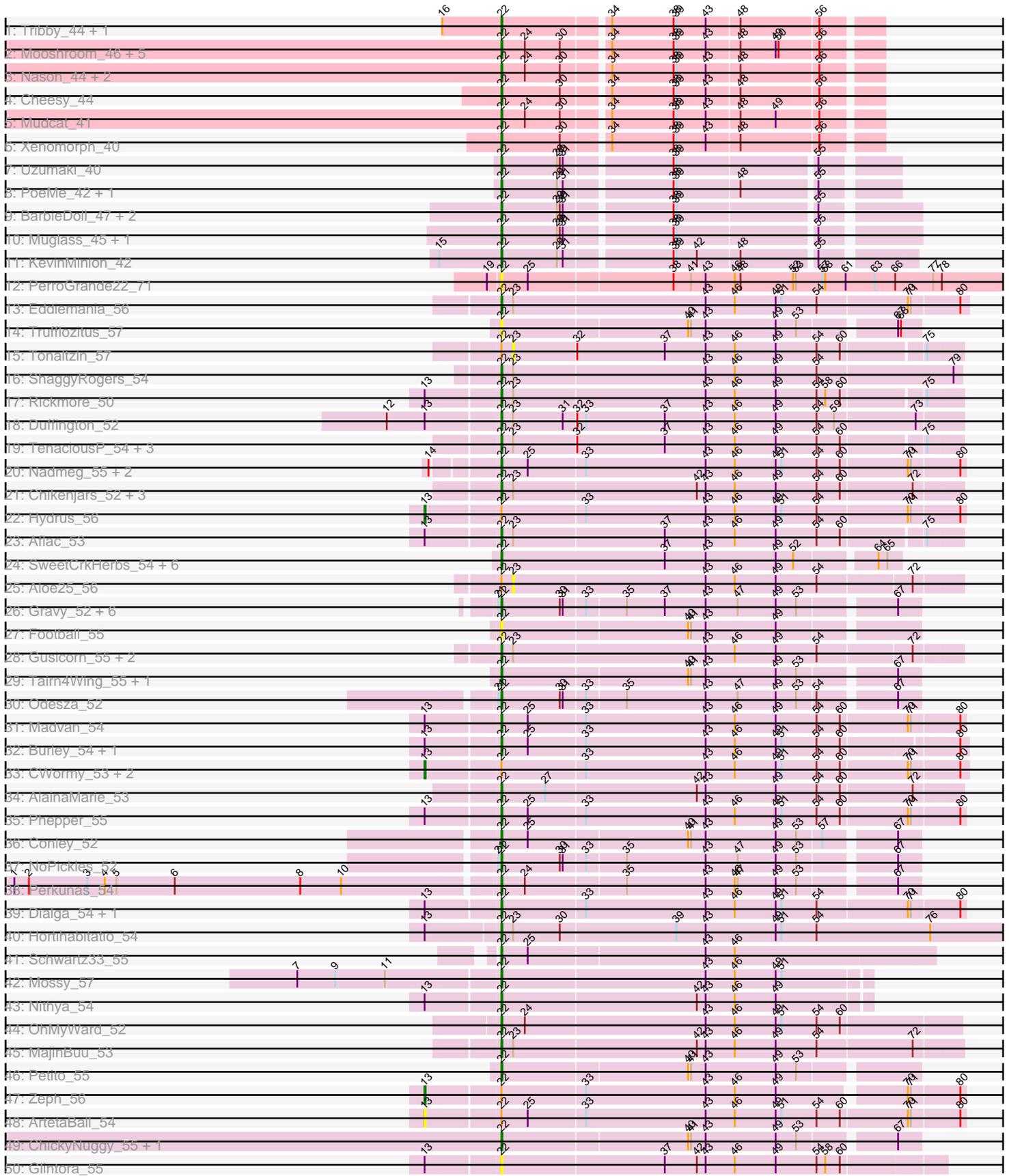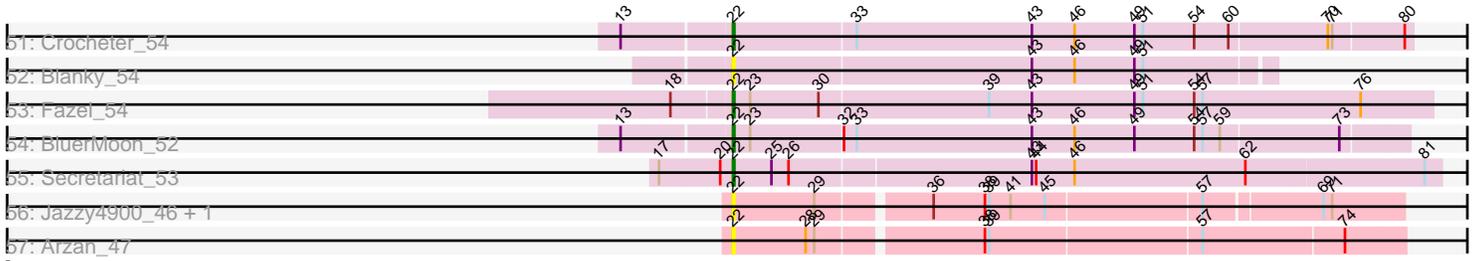# Pham 289265

Pham 289265

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 289265 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289265 has 98 members, 23 are drafts.

Phages represented in each track:
• Track 1 : Tribby_44, Correa_42
• Track 2 : Mooshroom_46, JEGGS_43, Heisenberger_43, Kardesai_45, BenitoAntonio_44, Benllo_43
• Track 3 : Nason_44, Elsa_44, Arcadia_44
• Track 4 : Cheesy_44
• Track 5 : Mudcat_41
• Track 6 : Xenomorph_40
• Track 7 : Uzumaki_40
• Track 8 : PoeMe_42, TrixiePhattel_43
• Track 9 : BarbieDoll_47, Lewando_45, Kinny_46
• Track 10 : Muglass_45, Biscute_43
• Track 11 : KevinMinion_42
• Track 12 : PerroGrande22_71
• Track 13 : Eddiemania_56
• Track 14 : Trufflozitus_57
• Track 15 : Tonaltzin_57
• Track 16 : ShaggyRogers_54
• Track 17 : Rickmore_50
• Track 18 : Duffington_52
• Track 19 : TenaciousP_54, OlgasClover_55, Figliar_52, Jodelie19_53
• Track 20 : Nadmeg_55, Kenosha_53, Runhaar_54
• Track 21 : Chikenjars_52, EndAve_55, Citrus_53, Luthien_56
• Track 22 : Hydrus_56
• Track 23 : Aflac_53
• Track 24 : SweetCrkHerbs_54, Captrips_52, Dancer_53, FortCran_53, Bugg_55, Talon44_54, Artorias_53
• Track 25 : Aloe25_56
• Track 26 : Gravy_52, Roney_53, Tanis_53, Capybara_53, Gill_53, Magel_54, Kerry_52
• Track 27 : Football_55
• Track 28 : Gusicorn_55, BetterYeti_54, PestoPenguin_57
• Track 29 : Tairn4Wing_55, Avazak_54
• Track 30 : Odesza_52
• Track 31 : Madvan_54
• Track 32 : Burley_54, Vardy_53
• Track 33 : CWormy_53, Arataki_52, Demure_51
• Track 34 : AlainaMarie_53

- Track 35 : Phepper_55
- Track 36 : Conley_52
- Track 37 : NoPickles_52
- Track 38 : Perkunas_54
- Track 39 : Dialga_54, Untouchable_55
- Track 40 : Hortihabitatio_54
- Track 41 : Schwartz33_55
- Track 42 : Mossy_57
- Track 43 : Nithya_54
- Track 44 : OhMyWard_52
- Track 45 : MajinBuu_53
- Track 46 : Petito_55
- Track 47 : Zeph_56
- Track 48 : ArtetaBall_54
- Track 49 : ChickyNuggy_55, JulesRay_53
- Track 50 : Glintora_55
- Track 51 : Crocheter_54
- Track 52 : Blanky_54
- Track 53 : Fazel_54
- Track 54 : BluerMoon_52
- Track 55 : Secretariat_53
- Track 56 : Jazzy4900_46, Sunny4976_45
- Track 57 : Arzan_47

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

The start number called the most often in the published annotations is 22, it was called in 72 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Aflac_53, AlainaMarie_53, Arcadia_44, Artorias_53, Arzan_47, Avazak_54, BarbieDoll_47, BenitoAntonio_44, Benllo_43, BetterYeti_54, Biscute_43, Blanky_54, BluerMoon_52, Bugg_55, Burley_54, Captrips_52, Capybara_53, Cheesy_44, ChickyNuggy_55, Chikenjars_52, Citrus_53, Conley_52, Correa_42, Crocheter_54, Dancer_53, Dialga_54, Duffington_52, Eddiemania_56, Elsa_44, EndAve_55, Fazel_54, Figliar_52, Football_55, FortCran_53, Gill_53, Glintora_55, Gravy_52, Gusicorn_55, Heisenberger_43, Hortihabitatio_54, JEGGS_43, Jazzy4900_46, Jodelie19_53, JulesRay_53, Kardesai_45, Kenosha_53, Kerry_52, KevinMinion_42, Kinny_46, Lewando_45, Luthien_56, Madvan_54, Magel_54, MajinBuu_53, Mooshroom_46, Mossy_57, Mudcat_41, Muglass_45, Nadmeg_55, Nason_44, Nithya_54, NoPickles_52, Odesza_52, OhMyWard_52, OlgasClover_55, Perkunas_54, PerroGrande22_71, PestoPenguin_57, Petito_55, Phepper_55, PoeMe_42, Rickmore_50, Roney_53, Runhaar_54, Schwartz33_55, Secretariat_53, ShaggyRogers_54, Sunny4976_45, SweetCrkHerbs_54, Tairn4Wing_55, Talon44_54, Tanis_53, TenaciousP_54, Tribby_44, TrixiePhattel_43, Trufflozitus_57, Untouchable_55, Uzumaki_40, Vardy_53, Xenomorph_40,

Genes that have the "Most Annotated" start but do not call it:
- Aloe25_56, Arataki_52, ArtetaBall_54, CWormy_53, Demure_51, Hydrus_56, Tonaltzin_57, Zeph_56,

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

Summary by start number:

Start 13:
• Found in 20 of 98 (20.4%) of genes in pham
• Manual Annotations of this start: 3 of 75
• Called 30.0% of time when present
• Phage (with cluster) where this start called: Arataki_52 (DJ), ArtetaBall_54 (DJ), CWormy_53 (DJ), Demure_51 (DJ), Hydrus_56 (DJ), Zeph_56 (DJ),

Start 22:
• Found in 98 of 98 (100.0%) of genes in pham
• Manual Annotations of this start: 72 of 75
• Called 91.8% of time when present
• Phage (with cluster) where this start called: Aflac_53 (DJ), AlainaMarie_53 (DJ), Arcadia_44 (AM), Artorias_53 (DJ), Arzan_47 (FI), Avazak_54 (DJ), BarbieDoll_47 (AU6), BenitoAntonio_44 (AM), Benllo_43 (AM), BetterYeti_54 (DJ), Biscute_43 (AU6), Blanky_54 (DJ), BluerMoon_52 (DJ), Bugg_55 (DJ), Burley_54 (DJ), Captrips_52 (DJ), Capybara_53 (DJ), Cheesy_44 (AM), ChickyNuggy_55 (DJ), Chikenjars_52 (DJ), Citrus_53 (DJ), Conley_52 (DJ), Correa_42 (AM), Crocheter_54 (DJ), Dancer_53 (DJ), Dialga_54 (DJ), Duffington_52 (DJ), Eddiemania_56 (DJ), Elsa_44 (AM), EndAve_55 (DJ), Fazel_54 (DJ), Figliar_52 (DJ), Football_55 (DJ), FortCran_53 (DJ), Gill_53 (DJ), Glintora_55 (DJ), Gravy_52 (DJ), Gusicorn_55 (DJ), Heisenberger_43 (AM), Hortihabitatio_54 (DJ), JEGGS_43 (AM), Jazzy4900_46 (FI), Jodelie19_53 (DJ), JulesRay_53 (DJ), Kardesai_45 (AM), Kenosha_53 (DJ), Kerry_52 (DJ), KevinMinion_42 (AU6), Kinny_46 (AU6), Lewando_45 (AU6), Luthien_56 (DJ), Madvan_54 (DJ), Magel_54 (DJ), MajinBuu_53 (DJ), Mooshroom_46 (AM), Mossy_57 (DJ), Mudcat_41 (AM), Muglass_45 (AU6), Nadmeg_55 (DJ), Nason_44 (AM), Nithya_54 (DJ), NoPickles_52 (DJ), Odesza_52 (DJ), OhMyWard_52 (DJ), OlgasClover_55 (DJ), Perkunas_54 (DJ), PerroGrande22_71 (CC), PestoPenguin_57 (DJ), Petito_55 (DJ), Phepper_55 (DJ), PoeMe_42 (AU6), Rickmore_50 (DJ), Roney_53 (DJ), Runhaar_54 (DJ), Schwartz33_55 (DJ), Secretariat_53 (DJ), ShaggyRogers_54 (DJ), Sunny4976_45 (FI), SweetCrkHerbs_54 (DJ), Tairn4Wing_55 (DJ), Talon44_54 (DJ), Tanis_53 (DJ), TenaciousP_54 (DJ), Tribby_44 (AM), TrixiePhattel_43 (AU6), Trufflozitus_57 (DJ), Untouchable_55 (DJ), Uzumaki_40 (AU6), Vardy_53 (DJ), Xenomorph_40 (AM),

Start 23:
• Found in 22 of 98 (22.4%) of genes in pham
• No Manual Annotations of this start.
• Called 9.1% of time when present
• Phage (with cluster) where this start called: Aloe25_56 (DJ), Tonaltzin_57 (DJ),

Summary by clusters:

There are 5 clusters represented in this pham: CC, AM, FI, DJ, AU6,

Info for manual annotations of cluster AM:
•Start number 22 was manually annotated 14 times for cluster AM.

Info for manual annotations of cluster AU6:
•Start number 22 was manually annotated 6 times for cluster AU6.

Info for manual annotations of cluster DJ:
•Start number 13 was manually annotated 3 times for cluster DJ.
•Start number 22 was manually annotated 52 times for cluster DJ.

Gene Information:
Gene: Aflac_53 Start: 37122, Stop: 37580, Start Num: 22
Candidate Starts for Aflac_53:
(Start: 13 @37050 has 3 MA's), (Start: 22 @37122 has 72 MA's), (23, 37134), (37, 37287), (43, 37329), (46, 37359), (49, 37401), (54, 37443), (60, 37467), (75, 37545),

Gene: AlainaMarie_53 Start: 37102, Stop: 37566, Start Num: 22
Candidate Starts for AlainaMarie_53:
(Start: 22 @37102 has 72 MA's), (27, 37147), (42, 37300), (43, 37309), (49, 37381), (54, 37423), (60, 37447), (72, 37519),

Gene: Aloe25_56 Start: 37216, Stop: 37665, Start Num: 23
Candidate Starts for Aloe25_56:
(Start: 22 @37204 has 72 MA's), (23, 37216), (43, 37411), (46, 37441), (49, 37483), (54, 37525), (72, 37618),

Gene: Arataki_52 Start: 36159, Stop: 36701, Start Num: 13
Candidate Starts for Arataki_52:
(Start: 13 @36159 has 3 MA's), (Start: 22 @36231 has 72 MA's), (33, 36315), (43, 36438), (46, 36468), (49, 36510), (51, 36516), (54, 36552), (60, 36576), (70, 36642), (71, 36645), (80, 36693),

Gene: Arcadia_44 Start: 30490, Stop: 30855, Start Num: 22
Candidate Starts for Arcadia_44:
(Start: 22 @30490 has 72 MA's), (24, 30514), (30, 30550), (34, 30592), (38, 30655), (39, 30658), (43, 30688), (48, 30721), (56, 30799),

Gene: ArtetaBall_54 Start: 37348, Stop: 37887, Start Num: 13
Candidate Starts for ArtetaBall_54:
(Start: 13 @37348 has 3 MA's), (Start: 22 @37420 has 72 MA's), (25, 37447), (33, 37504), (43, 37627), (46, 37657), (49, 37699), (51, 37705), (54, 37741), (60, 37765), (70, 37831), (71, 37834), (80, 37882),

Gene: Artorias_53 Start: 36489, Stop: 36887, Start Num: 22
Candidate Starts for Artorias_53:
(Start: 22 @36489 has 72 MA's), (37, 36657), (43, 36699), (49, 36771), (52, 36789), (64, 36864), (65, 36873),

Gene: Arzan_47 Start: 31913, Stop: 32362, Start Num: 22
Candidate Starts for Arzan_47:
(Start: 22 @31913 has 72 MA's), (28, 31964), (29, 31970), (38, 32078), (39, 32081), (57, 32225), (74, 32321),

Gene: Avazak_54 Start: 36834, Stop: 37244, Start Num: 22
Candidate Starts for Avazak_54:
(Start: 22 @36834 has 72 MA's), (40, 37020), (41, 37023), (43, 37038), (49, 37110), (53, 37131), (67, 37221),

Gene: BarbieDoll_47 Start: 32497, Stop: 32892, Start Num: 22
Candidate Starts for BarbieDoll_47:
(Start: 22 @32497 has 72 MA's), (29, 32554), (30, 32557), (31, 32560), (38, 32662), (39, 32665), (55, 32800),

Gene: BenitoAntonio_44 Start: 30067, Stop: 30432, Start Num: 22
Candidate Starts for BenitoAntonio_44:
(Start: 22 @30067 has 72 MA's), (24, 30091), (30, 30127), (34, 30169), (38, 30232), (39, 30235), (43, 30265), (48, 30298), (49, 30334), (50, 30337), (56, 30376),

Gene: Benllo_43 Start: 30751, Stop: 31116, Start Num: 22
Candidate Starts for Benllo_43:
(Start: 22 @30751 has 72 MA's), (24, 30775), (30, 30811), (34, 30853), (38, 30916), (39, 30919), (43, 30949), (48, 30982), (49, 31018), (50, 31021), (56, 31060),

Gene: BetterYeti_54 Start: 37203, Stop: 37664, Start Num: 22
Candidate Starts for BetterYeti_54:
(Start: 22 @37203 has 72 MA's), (23, 37215), (43, 37410), (46, 37440), (49, 37482), (54, 37524), (72, 37617),

Gene: Biscute_43 Start: 32150, Stop: 32545, Start Num: 22
Candidate Starts for Biscute_43:
(Start: 22 @32150 has 72 MA's), (29, 32207), (30, 32210), (31, 32213), (38, 32315), (39, 32318), (55, 32453),

Gene: Blanky_54 Start: 38832, Stop: 39203, Start Num: 22
Candidate Starts for Blanky_54:
(Start: 22 @38832 has 72 MA's), (43, 39039), (46, 39069), (49, 39111), (51, 39117),

Gene: BluerMoon_52 Start: 37145, Stop: 37609, Start Num: 22
Candidate Starts for BluerMoon_52:
(Start: 13 @37073 has 3 MA's), (Start: 22 @37145 has 72 MA's), (23, 37157), (32, 37220), (33, 37229), (43, 37352), (46, 37382), (49, 37424), (54, 37466), (57, 37472), (59, 37484), (73, 37565),

Gene: Bugg_55 Start: 36534, Stop: 36932, Start Num: 22
Candidate Starts for Bugg_55:
(Start: 22 @36534 has 72 MA's), (37, 36702), (43, 36744), (49, 36816), (52, 36834), (64, 36909), (65, 36918),

Gene: Burley_54 Start: 36888, Stop: 37352, Start Num: 22
Candidate Starts for Burley_54:
(Start: 13 @36816 has 3 MA's), (Start: 22 @36888 has 72 MA's), (25, 36915), (33, 36972), (43, 37095), (46, 37125), (49, 37167), (51, 37173), (54, 37209), (60, 37233), (80, 37344),

Gene: CWormy_53 Start: 36761, Stop: 37303, Start Num: 13
Candidate Starts for CWormy_53:
(Start: 13 @36761 has 3 MA's), (Start: 22 @36833 has 72 MA's), (33, 36917), (43, 37040), (46, 37070), (49, 37112), (51, 37118), (54, 37154), (60, 37178), (70, 37244), (71, 37247), (80, 37295),

Gene: Captrips_52 Start: 35964, Stop: 36362, Start Num: 22
Candidate Starts for Captrips_52:
(Start: 22 @35964 has 72 MA's), (37, 36132), (43, 36174), (49, 36246), (52, 36264), (64, 36339), (65, 36348),

Gene: Capybara_53 Start: 36333, Stop: 36743, Start Num: 22
Candidate Starts for Capybara_53:
(21, 36330), (Start: 22 @36333 has 72 MA's), (30, 36393), (31, 36396), (33, 36417), (35, 36456), (37, 36495), (43, 36537), (47, 36570), (49, 36609), (53, 36630), (67, 36720),

Gene: Cheesy_44 Start: 30188, Stop: 30553, Start Num: 22
Candidate Starts for Cheesy_44:
(Start: 22 @30188 has 72 MA's), (30, 30248), (34, 30290), (38, 30353), (39, 30356), (43, 30386), (48, 30419), (56, 30497),

Gene: ChickyNuggy_55 Start: 36591, Stop: 37001, Start Num: 22
Candidate Starts for ChickyNuggy_55:
(Start: 22 @36591 has 72 MA's), (40, 36777), (41, 36780), (43, 36795), (49, 36867), (53, 36888), (67, 36978),

Gene: Chikenjars_52 Start: 37114, Stop: 37578, Start Num: 22
Candidate Starts for Chikenjars_52:
(Start: 22 @37114 has 72 MA's), (23, 37126), (42, 37312), (43, 37321), (46, 37351), (49, 37393), (54, 37435), (60, 37459), (72, 37531),

Gene: Citrus_53 Start: 37392, Stop: 37856, Start Num: 22
Candidate Starts for Citrus_53:
(Start: 22 @37392 has 72 MA's), (23, 37404), (42, 37590), (43, 37599), (46, 37629), (49, 37671), (54, 37713), (60, 37737), (72, 37809),

Gene: Conley_52 Start: 37120, Stop: 37530, Start Num: 22
Candidate Starts for Conley_52:
(Start: 22 @37120 has 72 MA's), (25, 37147), (40, 37306), (41, 37309), (43, 37324), (49, 37396), (53, 37417), (57, 37441), (67, 37507),

Gene: Correa_42 Start: 29373, Stop: 29738, Start Num: 22
Candidate Starts for Correa_42:
(16, 29313), (Start: 22 @29373 has 72 MA's), (34, 29475), (38, 29538), (39, 29541), (43, 29571), (48, 29604), (56, 29682),

Gene: Crocheter_54 Start: 37278, Stop: 37745, Start Num: 22
Candidate Starts for Crocheter_54:
(Start: 13 @37206 has 3 MA's), (Start: 22 @37278 has 72 MA's), (33, 37362), (43, 37485), (46, 37515), (49, 37557), (51, 37563), (54, 37599), (60, 37623), (70, 37689), (71, 37692), (80, 37740),

Gene: Dancer_53 Start: 36224, Stop: 36622, Start Num: 22
Candidate Starts for Dancer_53:
(Start: 22 @36224 has 72 MA's), (37, 36392), (43, 36434), (49, 36506), (52, 36524), (64, 36599), (65, 36608),

Gene: Demure_51 Start: 36159, Stop: 36701, Start Num: 13
Candidate Starts for Demure_51:

(Start: 13 @36159 has 3 MA's), (Start: 22 @36231 has 72 MA's), (33, 36315), (43, 36438), (46, 36468), (49, 36510), (51, 36516), (54, 36552), (60, 36576), (70, 36642), (71, 36645), (80, 36693),

Gene: Dialga_54 Start: 37447, Stop: 37914, Start Num: 22
Candidate Starts for Dialga_54:
(Start: 13 @37375 has 3 MA's), (Start: 22 @37447 has 72 MA's), (33, 37531), (43, 37654), (46, 37684), (49, 37726), (51, 37732), (54, 37768), (70, 37858), (71, 37861), (80, 37909),

Gene: Duffington_52 Start: 36809, Stop: 37273, Start Num: 22
Candidate Starts for Duffington_52:
(12, 36698), (Start: 13 @36737 has 3 MA's), (Start: 22 @36809 has 72 MA's), (23, 36821), (31, 36872), (32, 36884), (33, 36893), (37, 36974), (43, 37016), (46, 37046), (49, 37088), (54, 37130), (59, 37148), (73, 37229),

Gene: Eddiemania_56 Start: 38023, Stop: 38493, Start Num: 22
Candidate Starts for Eddiemania_56:
(Start: 22 @38023 has 72 MA's), (23, 38035), (43, 38230), (46, 38260), (49, 38302), (51, 38308), (54, 38344), (70, 38434), (71, 38437), (80, 38485),

Gene: Elsa_44 Start: 30490, Stop: 30855, Start Num: 22
Candidate Starts for Elsa_44:
(Start: 22 @30490 has 72 MA's), (24, 30514), (30, 30550), (34, 30592), (38, 30655), (39, 30658), (43, 30688), (48, 30721), (56, 30799),

Gene: EndAve_55 Start: 37282, Stop: 37746, Start Num: 22
Candidate Starts for EndAve_55:
(Start: 22 @37282 has 72 MA's), (23, 37294), (42, 37480), (43, 37489), (46, 37519), (49, 37561), (54, 37603), (60, 37627), (72, 37699),

Gene: Fazel_54 Start: 36737, Stop: 37225, Start Num: 22
Candidate Starts for Fazel_54:
(18, 36698), (Start: 22 @36737 has 72 MA's), (23, 36749), (30, 36797), (39, 36914), (43, 36944), (49, 37016), (51, 37022), (54, 37058), (57, 37064), (76, 37175),

Gene: Figliar_52 Start: 37190, Stop: 37648, Start Num: 22
Candidate Starts for Figliar_52:
(Start: 22 @37190 has 72 MA's), (23, 37202), (32, 37265), (37, 37355), (43, 37397), (46, 37427), (49, 37469), (54, 37511), (60, 37535), (75, 37613),

Gene: Football_55 Start: 36388, Stop: 36798, Start Num: 22
Candidate Starts for Football_55:
(Start: 22 @36388 has 72 MA's), (40, 36574), (41, 36577), (43, 36592), (49, 36664),

Gene: FortCran_53 Start: 36489, Stop: 36887, Start Num: 22
Candidate Starts for FortCran_53:
(Start: 22 @36489 has 72 MA's), (37, 36657), (43, 36699), (49, 36771), (52, 36789), (64, 36864), (65, 36873),

Gene: Gill_53 Start: 36350, Stop: 36760, Start Num: 22
Candidate Starts for Gill_53:
(21, 36347), (Start: 22 @36350 has 72 MA's), (30, 36410), (31, 36413), (33, 36434), (35, 36473), (37, 36512), (43, 36554), (47, 36587), (49, 36626), (53, 36647), (67, 36737),

Gene: Glintora_55 Start: 37742, Stop: 38188, Start Num: 22
Candidate Starts for Glintora_55:
(Start: 13 @37670 has 3 MA's), (Start: 22 @37742 has 72 MA's), (37, 37907), (42, 37940), (43, 37949), (46, 37979), (49, 38021), (54, 38063), (58, 38072), (60, 38087),

Gene: Gravy_52 Start: 36023, Stop: 36433, Start Num: 22
Candidate Starts for Gravy_52:
(21, 36020), (Start: 22 @36023 has 72 MA's), (30, 36083), (31, 36086), (33, 36107), (35, 36146), (37, 36185), (43, 36227), (47, 36260), (49, 36299), (53, 36320), (67, 36410),

Gene: Gusicorn_55 Start: 37204, Stop: 37665, Start Num: 22
Candidate Starts for Gusicorn_55:
(Start: 22 @37204 has 72 MA's), (23, 37216), (43, 37411), (46, 37441), (49, 37483), (54, 37525), (72, 37618),

Gene: Heisenberger_43 Start: 29931, Stop: 30296, Start Num: 22
Candidate Starts for Heisenberger_43:
(Start: 22 @29931 has 72 MA's), (24, 29955), (30, 29991), (34, 30033), (38, 30096), (39, 30099), (43, 30129), (48, 30162), (49, 30198), (50, 30201), (56, 30240),

Gene: Hortihabitatio_54 Start: 36942, Stop: 37460, Start Num: 22
Candidate Starts for Hortihabitatio_54:
(Start: 13 @36870 has 3 MA's), (Start: 22 @36942 has 72 MA's), (23, 36954), (30, 37002), (39, 37119), (43, 37149), (49, 37221), (51, 37227), (54, 37263), (76, 37380),

Gene: Hydrus_56 Start: 37978, Stop: 38517, Start Num: 13
Candidate Starts for Hydrus_56:
(Start: 13 @37978 has 3 MA's), (Start: 22 @38050 has 72 MA's), (33, 38134), (43, 38257), (46, 38287), (49, 38329), (51, 38335), (54, 38371), (70, 38461), (71, 38464), (80, 38512),

Gene: JEGGS_43 Start: 29985, Stop: 30350, Start Num: 22
Candidate Starts for JEGGS_43:
(Start: 22 @29985 has 72 MA's), (24, 30009), (30, 30045), (34, 30087), (38, 30150), (39, 30153), (43, 30183), (48, 30216), (49, 30252), (50, 30255), (56, 30294),

Gene: Jazzy4900_46 Start: 32761, Stop: 33207, Start Num: 22
Candidate Starts for Jazzy4900_46:
(Start: 22 @32761 has 72 MA's), (29, 32818), (36, 32890), (38, 32926), (39, 32929), (41, 32944), (45, 32968), (57, 33073), (69, 33151), (71, 33157),

Gene: Jodelie19_53 Start: 38594, Stop: 39052, Start Num: 22
Candidate Starts for Jodelie19_53:
(Start: 22 @38594 has 72 MA's), (23, 38606), (32, 38669), (37, 38759), (43, 38801), (46, 38831), (49, 38873), (54, 38915), (60, 38939), (75, 39017),

Gene: JulesRay_53 Start: 36516, Stop: 36926, Start Num: 22
Candidate Starts for JulesRay_53:
(Start: 22 @36516 has 72 MA's), (40, 36702), (41, 36705), (43, 36720), (49, 36792), (53, 36813), (67, 36903),

Gene: Kardesai_45 Start: 30651, Stop: 31016, Start Num: 22
Candidate Starts for Kardesai_45:

(Start: 22 @30651 has 72 MA's), (24, 30675), (30, 30711), (34, 30753), (38, 30816), (39, 30819), (43, 30849), (48, 30882), (49, 30918), (50, 30921), (56, 30960),

Gene: Kenosha_53 Start: 37509, Stop: 37976, Start Num: 22
Candidate Starts for Kenosha_53:
(14, 37449), (Start: 22 @37509 has 72 MA's), (25, 37536), (33, 37593), (43, 37716), (46, 37746), (49, 37788), (51, 37794), (54, 37830), (60, 37854), (70, 37920), (71, 37923), (80, 37971),

Gene: Kerry_52 Start: 36023, Stop: 36433, Start Num: 22
Candidate Starts for Kerry_52:
(21, 36020), (Start: 22 @36023 has 72 MA's), (30, 36083), (31, 36086), (33, 36107), (35, 36146), (37, 36185), (43, 36227), (47, 36260), (49, 36299), (53, 36320), (67, 36410),

Gene: KevinMinion_42 Start: 31542, Stop: 31931, Start Num: 22
Candidate Starts for KevinMinion_42:
(15, 31479), (Start: 22 @31542 has 72 MA's), (29, 31599), (31, 31605), (38, 31707), (39, 31710), (42, 31731), (48, 31773), (55, 31845),

Gene: Kinny_46 Start: 32991, Stop: 33386, Start Num: 22
Candidate Starts for Kinny_46:
(Start: 22 @32991 has 72 MA's), (29, 33048), (30, 33051), (31, 33054), (38, 33156), (39, 33159), (55, 33294),

Gene: Lewando_45 Start: 32283, Stop: 32678, Start Num: 22
Candidate Starts for Lewando_45:
(Start: 22 @32283 has 72 MA's), (29, 32340), (30, 32343), (31, 32346), (38, 32448), (39, 32451), (55, 32586),

Gene: Luthien_56 Start: 37280, Stop: 37744, Start Num: 22
Candidate Starts for Luthien_56:
(Start: 22 @37280 has 72 MA's), (23, 37292), (42, 37478), (43, 37487), (46, 37517), (49, 37559), (54, 37601), (60, 37625), (72, 37697),

Gene: Madvan_54 Start: 36919, Stop: 37386, Start Num: 22
Candidate Starts for Madvan_54:
(Start: 13 @36847 has 3 MA's), (Start: 22 @36919 has 72 MA's), (25, 36946), (33, 37003), (43, 37126), (46, 37156), (49, 37198), (54, 37240), (60, 37264), (70, 37330), (71, 37333), (80, 37381),

Gene: Magel_54 Start: 36254, Stop: 36676, Start Num: 22
Candidate Starts for Magel_54:
(21, 36251), (Start: 22 @36254 has 72 MA's), (30, 36314), (31, 36317), (33, 36338), (35, 36377), (37, 36416), (43, 36458), (47, 36491), (49, 36530), (53, 36551), (67, 36653),

Gene: MajinBuu_53 Start: 37216, Stop: 37680, Start Num: 22
Candidate Starts for MajinBuu_53:
(Start: 22 @37216 has 72 MA's), (23, 37228), (42, 37414), (43, 37423), (46, 37453), (49, 37495), (54, 37537), (72, 37633),

Gene: Mooshroom_46 Start: 30651, Stop: 31016, Start Num: 22
Candidate Starts for Mooshroom_46:
(Start: 22 @30651 has 72 MA's), (24, 30675), (30, 30711), (34, 30753), (38, 30816), (39, 30819), (43, 30849), (48, 30882), (49, 30918), (50, 30921), (56, 30960),

Gene: Mossy_57 Start: 39044, Stop: 39415, Start Num: 22
Candidate Starts for Mossy_57:
(7, 38843), (9, 38882), (11, 38933), (Start: 22 @39044 has 72 MA's), (43, 39251), (46, 39281), (49, 39323), (51, 39329),

Gene: Mudcat_41 Start: 31344, Stop: 31709, Start Num: 22
Candidate Starts for Mudcat_41:
(Start: 22 @31344 has 72 MA's), (24, 31368), (30, 31404), (34, 31446), (38, 31509), (39, 31512), (43, 31542), (48, 31575), (49, 31611), (56, 31653),

Gene: Muglass_45 Start: 32054, Stop: 32449, Start Num: 22
Candidate Starts for Muglass_45:
(Start: 22 @32054 has 72 MA's), (29, 32111), (30, 32114), (31, 32117), (38, 32219), (39, 32222), (55, 32357),

Gene: Nadmeg_55 Start: 38165, Stop: 38632, Start Num: 22
Candidate Starts for Nadmeg_55:
(14, 38105), (Start: 22 @38165 has 72 MA's), (25, 38192), (33, 38249), (43, 38372), (46, 38402), (49, 38444), (51, 38450), (54, 38486), (60, 38510), (70, 38576), (71, 38579), (80, 38627),

Gene: Nason_44 Start: 30490, Stop: 30855, Start Num: 22
Candidate Starts for Nason_44:
(Start: 22 @30490 has 72 MA's), (24, 30514), (30, 30550), (34, 30592), (38, 30655), (39, 30658), (43, 30688), (48, 30721), (56, 30799),

Gene: Nithya_54 Start: 37126, Stop: 37497, Start Num: 22
Candidate Starts for Nithya_54:
(Start: 13 @37054 has 3 MA's), (Start: 22 @37126 has 72 MA's), (42, 37324), (43, 37333), (46, 37363), (49, 37405),

Gene: NoPickles_52 Start: 35688, Stop: 36098, Start Num: 22
Candidate Starts for NoPickles_52:
(21, 35685), (Start: 22 @35688 has 72 MA's), (30, 35748), (31, 35751), (33, 35772), (35, 35811), (43, 35892), (47, 35925), (49, 35964), (53, 35985), (67, 36075),

Gene: Odesza_52 Start: 36078, Stop: 36488, Start Num: 22
Candidate Starts for Odesza_52:
(21, 36075), (Start: 22 @36078 has 72 MA's), (30, 36138), (31, 36141), (33, 36162), (35, 36201), (43, 36282), (47, 36315), (49, 36354), (53, 36375), (54, 36393), (67, 36465),

Gene: OhMyWard_52 Start: 38137, Stop: 38601, Start Num: 22
Candidate Starts for OhMyWard_52:
(Start: 22 @38137 has 72 MA's), (24, 38161), (43, 38344), (46, 38374), (49, 38416), (51, 38422), (54, 38458), (60, 38482),

Gene: OlgasClover_55 Start: 38175, Stop: 38633, Start Num: 22
Candidate Starts for OlgasClover_55:
(Start: 22 @38175 has 72 MA's), (23, 38187), (32, 38250), (37, 38340), (43, 38382), (46, 38412), (49, 38454), (54, 38496), (60, 38520), (75, 38598),

Gene: Perkunas_54 Start: 36360, Stop: 36770, Start Num: 22
Candidate Starts for Perkunas_54:

(1, 35874), (2, 35889), (3, 35949), (4, 35967), (5, 35979), (6, 36039), (8, 36168), (10, 36210), (Start: 22 @36360 has 72 MA's), (24, 36384), (35, 36483), (43, 36564), (46, 36594), (47, 36597), (49, 36636), (53, 36657), (67, 36747),

Gene: PerroGrande22_71 Start: 49107, Stop: 49640, Start Num: 22
Candidate Starts for PerroGrande22_71:
(19, 49095), (Start: 22 @49107 has 72 MA's), (25, 49134), (38, 49278), (41, 49296), (43, 49311), (46, 49341), (48, 49347), (52, 49401), (53, 49404), (57, 49431), (58, 49434), (61, 49455), (63, 49485), (66, 49506), (77, 49545), (78, 49554),

Gene: PestoPenguin_57 Start: 37204, Stop: 37665, Start Num: 22
Candidate Starts for PestoPenguin_57:
(Start: 22 @37204 has 72 MA's), (23, 37216), (43, 37411), (46, 37441), (49, 37483), (54, 37525), (72, 37618),

Gene: Petito_55 Start: 38180, Stop: 38590, Start Num: 22
Candidate Starts for Petito_55:
(Start: 22 @38180 has 72 MA's), (40, 38366), (41, 38369), (43, 38384), (49, 38456), (53, 38477),

Gene: Phepper_55 Start: 37181, Stop: 37648, Start Num: 22
Candidate Starts for Phepper_55:
(Start: 13 @37109 has 3 MA's), (Start: 22 @37181 has 72 MA's), (25, 37208), (33, 37265), (43, 37388), (46, 37418), (49, 37460), (51, 37466), (54, 37502), (60, 37526), (70, 37592), (71, 37595), (80, 37643),

Gene: PoeMe_42 Start: 31062, Stop: 31436, Start Num: 22
Candidate Starts for PoeMe_42:
(Start: 22 @31062 has 72 MA's), (29, 31119), (31, 31125), (38, 31227), (39, 31230), (48, 31293), (55, 31365),

Gene: Rickmore_50 Start: 34982, Stop: 35440, Start Num: 22
Candidate Starts for Rickmore_50:
(Start: 13 @34910 has 3 MA's), (Start: 22 @34982 has 72 MA's), (23, 34994), (43, 35189), (46, 35219), (49, 35261), (54, 35303), (58, 35312), (60, 35327), (75, 35405),

Gene: Roney_53 Start: 36376, Stop: 36786, Start Num: 22
Candidate Starts for Roney_53:
(21, 36373), (Start: 22 @36376 has 72 MA's), (30, 36436), (31, 36439), (33, 36460), (35, 36499), (37, 36538), (43, 36580), (47, 36613), (49, 36652), (53, 36673), (67, 36763),

Gene: Runhaar_54 Start: 36981, Stop: 37448, Start Num: 22
Candidate Starts for Runhaar_54:
(14, 36921), (Start: 22 @36981 has 72 MA's), (25, 37008), (33, 37065), (43, 37188), (46, 37218), (49, 37260), (51, 37266), (54, 37302), (60, 37326), (70, 37392), (71, 37395), (80, 37443),

Gene: Schwartz33_55 Start: 37144, Stop: 37581, Start Num: 22
Candidate Starts for Schwartz33_55:
(Start: 22 @37144 has 72 MA's), (25, 37171), (43, 37348), (46, 37378),

Gene: Secretariat_53 Start: 36006, Stop: 36494, Start Num: 22
Candidate Starts for Secretariat_53:
(17, 35955), (20, 35997), (Start: 22 @36006 has 72 MA's), (25, 36033), (26, 36045), (43, 36210), (44, 36213), (46, 36240), (62, 36360), (81, 36483),

Gene: ShaggyRogers_54 Start: 36933, Stop: 37400, Start Num: 22
Candidate Starts for ShaggyRogers_54:
(Start: 22 @36933 has 72 MA's), (23, 36945), (43, 37140), (46, 37170), (49, 37212), (54, 37254), (79, 37392),

Gene: Sunny4976_45 Start: 32761, Stop: 33207, Start Num: 22
Candidate Starts for Sunny4976_45:
(Start: 22 @32761 has 72 MA's), (29, 32818), (36, 32890), (38, 32926), (39, 32929), (41, 32944), (45, 32968), (57, 33073), (69, 33151), (71, 33157),

Gene: SweetCrkHerbs_54 Start: 36034, Stop: 36432, Start Num: 22
Candidate Starts for SweetCrkHerbs_54:
(Start: 22 @36034 has 72 MA's), (37, 36202), (43, 36244), (49, 36316), (52, 36334), (64, 36409), (65, 36418),

Gene: Tairn4Wing_55 Start: 36335, Stop: 36745, Start Num: 22
Candidate Starts for Tairn4Wing_55:
(Start: 22 @36335 has 72 MA's), (40, 36521), (41, 36524), (43, 36539), (49, 36611), (53, 36632), (67, 36722),

Gene: Talon44_54 Start: 36376, Stop: 36774, Start Num: 22
Candidate Starts for Talon44_54:
(Start: 22 @36376 has 72 MA's), (37, 36544), (43, 36586), (49, 36658), (52, 36676), (64, 36751), (65, 36760),

Gene: Tanis_53 Start: 36196, Stop: 36606, Start Num: 22
Candidate Starts for Tanis_53:
(21, 36193), (Start: 22 @36196 has 72 MA's), (30, 36256), (31, 36259), (33, 36280), (35, 36319), (37, 36358), (43, 36400), (47, 36433), (49, 36472), (53, 36493), (67, 36583),

Gene: TenaciousP_54 Start: 38556, Stop: 39014, Start Num: 22
Candidate Starts for TenaciousP_54:
(Start: 22 @38556 has 72 MA's), (23, 38568), (32, 38631), (37, 38721), (43, 38763), (46, 38793), (49, 38835), (54, 38877), (60, 38901), (75, 38979),

Gene: Tonaltzin_57 Start: 37138, Stop: 37584, Start Num: 23
Candidate Starts for Tonaltzin_57:
(Start: 22 @37126 has 72 MA's), (23, 37138), (32, 37201), (37, 37291), (43, 37333), (46, 37363), (49, 37405), (54, 37447), (60, 37471), (75, 37549),

Gene: Tribby_44 Start: 30206, Stop: 30571, Start Num: 22
Candidate Starts for Tribby_44:
(16, 30146), (Start: 22 @30206 has 72 MA's), (34, 30308), (38, 30371), (39, 30374), (43, 30404), (48, 30437), (56, 30515),

Gene: TrixiePhattel_43 Start: 30777, Stop: 31151, Start Num: 22
Candidate Starts for TrixiePhattel_43:
(Start: 22 @30777 has 72 MA's), (29, 30834), (31, 30840), (38, 30942), (39, 30945), (48, 31008), (55, 31080),

Gene: Trufflozitus_57 Start: 36858, Stop: 37268, Start Num: 22
Candidate Starts for Trufflozitus_57:

(Start: 22 @36858 has 72 MA's), (40, 37044), (41, 37047), (43, 37062), (49, 37134), (53, 37155), (67, 37245), (68, 37248),

Gene: Untouchable_55 Start: 37530, Stop: 37997, Start Num: 22
Candidate Starts for Untouchable_55:
(Start: 13 @37458 has 3 MA's), (Start: 22 @37530 has 72 MA's), (33, 37614), (43, 37737), (46, 37767), (49, 37809), (51, 37815), (54, 37851), (70, 37941), (71, 37944), (80, 37992),

Gene: Uzumaki_40 Start: 30796, Stop: 31170, Start Num: 22
Candidate Starts for Uzumaki_40:
(Start: 22 @30796 has 72 MA's), (29, 30853), (30, 30856), (31, 30859), (38, 30961), (39, 30964), (55, 31099),

Gene: Vardy_53 Start: 36877, Stop: 37338, Start Num: 22
Candidate Starts for Vardy_53:
(Start: 13 @36805 has 3 MA's), (Start: 22 @36877 has 72 MA's), (25, 36904), (33, 36961), (43, 37084), (46, 37114), (49, 37156), (51, 37162), (54, 37198), (60, 37222), (80, 37333),

Gene: Xenomorph_40 Start: 29917, Stop: 30282, Start Num: 22
Candidate Starts for Xenomorph_40:
(Start: 22 @29917 has 72 MA's), (30, 29977), (34, 30019), (38, 30082), (39, 30085), (43, 30115), (48, 30148), (56, 30226),

Gene: Zeph_56 Start: 37958, Stop: 38485, Start Num: 13
Candidate Starts for Zeph_56:
(Start: 13 @37958 has 3 MA's), (Start: 22 @38030 has 72 MA's), (33, 38114), (43, 38237), (46, 38267), (49, 38309), (70, 38429), (71, 38432), (80, 38480),