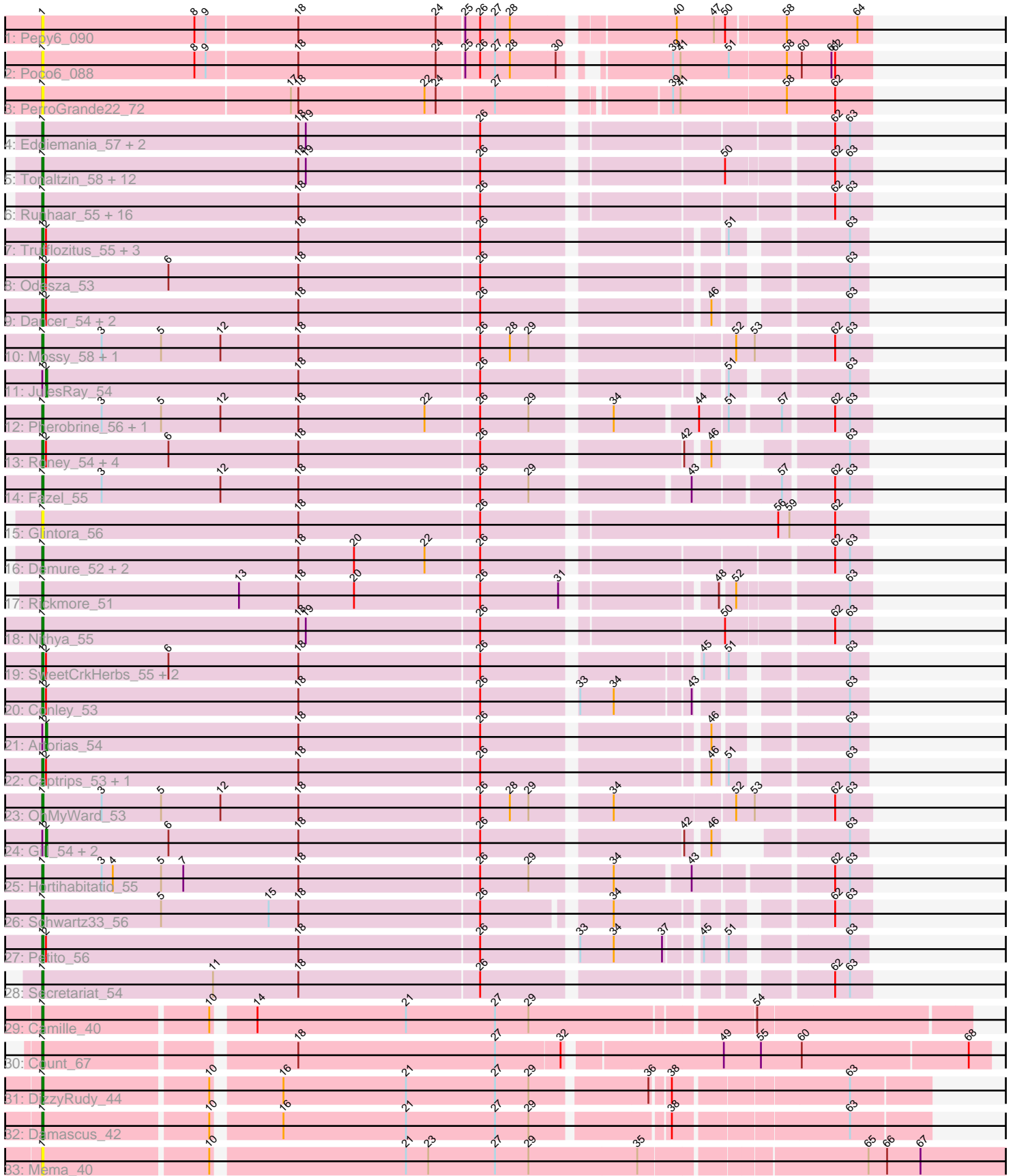


Pham 304945



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 304945 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304945 has 81 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Pepy6_090
- Track 2 : Poco6_088
- Track 3 : PerroGrande22_72
- Track 4 : Eddiemania_57, Kenosha_54, MajinBuu_54
- Track 5 : Tonaltzin_58, Figliar_53, Jodelie19_54, Luthien_57, Citrus_54, Duffington_53, Chikenjars_53, EndAve_56, AlainaMarie_54, OlgasClover_56, Aflac_54, BluerMoon_53, TenaciousP_55
- Track 6 : Runhaar_55, PestoPenguin_58, ShaggyRogers_55, Madvan_55, Burley_55, BetterYeti_55, Crocheter_55, Phepper_56, Untouchable_56, Nadmeg_56, CWormy_54, Aloe25_57, ArtetaBall_55, Gusicorn_56, Dialga_55, Vardy_54, Hydrus_57
- Track 7 : Trufflozitus_55, Avazak_55, ChickyNuggy_56, Tairn4Wing_56
- Track 8 : Odesza_53
- Track 9 : Dancer_54, Bugg_56, FortCran_54
- Track 10 : Mossy_58, Blanky_55
- Track 11 : JulesRay_54
- Track 12 : Pherobrine_56, Mysticmoon_55
- Track 13 : Roney_54, Kerry_53, Tanis_54, Gravy_53, Capybara_54
- Track 14 : Fazel_55
- Track 15 : Glintora_56
- Track 16 : Demure_52, Zeph_57, Arataki_53
- Track 17 : Rickmore_51
- Track 18 : Nithya_55
- Track 19 : SweetCrkHerbs_55, Perkunas_55, Talon44_55
- Track 20 : Conley_53
- Track 21 : Artorias_54
- Track 22 : Captrips_53, Football_56
- Track 23 : OhMyWard_53
- Track 24 : Gill_54, NoPickles_53, Magel_55
- Track 25 : Hortihabitatio_55
- Track 26 : Schwartz33_56
- Track 27 : Petite_56
- Track 28 : Secretariat_54
- Track 29 : Camille_40
- Track 30 : Count_67
- Track 31 : DizzyRudy_44
- Track 32 : Damascus_42

- Track 33 : Mema_40

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

The start number called the most often in the published annotations is 1, it was called in 57 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aflac_54, AlainaMarie_54, Aloe25_57, Arataki_53, ArtetaBall_55, Avazak_55, BetterYeti_55, Blanky_55, BluerMoon_53, Bugg_56, Burley_55, CWormy_54, Camille_40, Captrips_53, Capybara_54, ChickyNuggy_56, Chikenjars_53, Citrus_54, Conley_53, Count_67, Crocheter_55, Damascus_42, Dancer_54, Demure_52, Dialga_55, DizzyRudy_44, Duffington_53, Eddiemania_57, EndAve_56, Fazel_55, Figliar_53, Football_56, FortCran_54, Glintora_56, Gravy_53, Gusicorn_56, Hortihabitatio_55, Hydrus_57, Jodelie19_54, Kenosha_54, Kerry_53, Luthien_57, Madvan_55, MajinBuu_54, Mema_40, Mossy_58, Mysticmoon_55, Nadmeg_56, Nithya_55, Odesza_53, OhMyWard_53, OlgasClover_56, Pepy6_090, Perkunas_55, PerroGrande22_72, PestoPenguin_58, Petite_56, Phepper_56, Pherobrine_56, Poco6_088, Rickmore_51, Roney_54, Runhaar_55, Schwartz33_56, Secretariat_54, ShaggyRogers_55, SweetCrkHerbs_55, Tairn4Wing_56, Talon44_55, Tanis_54, TenaciousP_55, Tonaltzin_58, Trufflozitus_55, Untouchable_56, Vardy_54, Zeph_57,

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

- Artorias_54, Gill_54, JulesRay_54, Magel_55, NoPickles_53,

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

-

Summary by start number:

Start 1:

- Found in 81 of 81 (100.0%) of genes in pham
- Manual Annotations of this start: 57 of 62
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Aflac_54 (DJ), AlainaMarie_54 (DJ), Aloe25_57 (DJ), Arataki_53 (DJ), ArtetaBall_55 (DJ), Avazak_55 (DJ), BetterYeti_55 (DJ), Blanky_55 (DJ), BluerMoon_53 (DJ), Bugg_56 (DJ), Burley_55 (DJ), CWormy_54 (DJ), Camille_40 (EL), Captrips_53 (DJ), Capybara_54 (DJ), ChickyNuggy_56 (DJ), Chikenjars_53 (DJ), Citrus_54 (DJ), Conley_53 (DJ), Count_67 (EL), Crocheter_55 (DJ), Damascus_42 (EL), Dancer_54 (DJ), Demure_52 (DJ), Dialga_55 (DJ), DizzyRudy_44 (EL), Duffington_53 (DJ), Eddiemania_57 (DJ), EndAve_56 (DJ), Fazel_55 (DJ), Figliar_53 (DJ), Football_56 (DJ), FortCran_54 (DJ), Glintora_56 (DJ), Gravy_53 (DJ), Gusicorn_56 (DJ), Hortihabitatio_55 (DJ), Hydrus_57 (DJ), Jodelie19_54 (DJ), Kenosha_54 (DJ), Kerry_53 (DJ), Luthien_57 (DJ), Madvan_55 (DJ), MajinBuu_54 (DJ), Mema_40 (EL), Mossy_58 (DJ), Mysticmoon_55 (DJ), Nadmeg_56 (DJ), Nithya_55 (DJ), Odesza_53 (DJ), OhMyWard_53 (DJ), OlgasClover_56 (DJ), Pepy6_090 (CC), Perkunas_55 (DJ), PerroGrande22_72 (CC), PestoPenguin_58 (DJ), Petite_56 (DJ), Phepper_56 (DJ), Pherobrine_56 (DJ), Poco6_088 (CC), Rickmore_51 (DJ), Roney_54 (DJ), Runhaar_55 (DJ), Schwartz33_56 (DJ), Secretariat_54 (DJ), ShaggyRogers_55 (DJ),

SweetCrkHerbs_55 (DJ), Tairn4Wing_56 (DJ), Talon44_55 (DJ), Tanis_54 (DJ), TenaciousP_55 (DJ), Tonaltzin_58 (DJ), Trufflozitus_55 (DJ), Untouchable_56 (DJ), Vardy_54 (DJ), Zeph_57 (DJ),

Start 2:

- Found in 25 of 81 (30.9%) of genes in pham
- Manual Annotations of this start: 5 of 62
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Artorias_54 (DJ), Gill_54 (DJ), JulesRay_54 (DJ), Magel_55 (DJ), NoPickles_53 (DJ),

Summary by clusters:

There are 3 clusters represented in this pham: CC, EL, DJ,

Info for manual annotations of cluster DJ:

- Start number 1 was manually annotated 53 times for cluster DJ.
- Start number 2 was manually annotated 5 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 1 was manually annotated 4 times for cluster EL.

Gene Information:

Gene: Aflac_54 Start: 37624, Stop: 38262, Start Num: 1

Candidate Starts for Aflac_54:

(Start: 1 @37624 has 57 MA's), (18, 37831), (19, 37837), (26, 37975), (50, 38155), (62, 38233), (63, 38245),

Gene: AlainaMarie_54 Start: 37610, Stop: 38248, Start Num: 1

Candidate Starts for AlainaMarie_54:

(Start: 1 @37610 has 57 MA's), (18, 37817), (19, 37823), (26, 37961), (50, 38141), (62, 38219), (63, 38231),

Gene: Aloe25_57 Start: 37709, Stop: 38344, Start Num: 1

Candidate Starts for Aloe25_57:

(Start: 1 @37709 has 57 MA's), (18, 37916), (26, 38060), (62, 38315), (63, 38327),

Gene: Arataki_53 Start: 36745, Stop: 37380, Start Num: 1

Candidate Starts for Arataki_53:

(Start: 1 @36745 has 57 MA's), (18, 36952), (20, 36997), (22, 37054), (26, 37096), (62, 37351), (63, 37363),

Gene: ArtetaBall_55 Start: 37934, Stop: 38569, Start Num: 1

Candidate Starts for ArtetaBall_55:

(Start: 1 @37934 has 57 MA's), (18, 38141), (26, 38285), (62, 38540), (63, 38552),

Gene: Artorias_54 Start: 36960, Stop: 37574, Start Num: 2

Candidate Starts for Artorias_54:

(Start: 1 @36957 has 57 MA's), (Start: 2 @36960 has 5 MA's), (18, 37164), (26, 37308), (46, 37473), (63, 37560),

Gene: Avazak_55 Start: 37284, Stop: 37901, Start Num: 1

Candidate Starts for Avazak_55:

(Start: 1 @37284 has 57 MA's), (Start: 2 @37287 has 5 MA's), (18, 37491), (26, 37635), (51, 37809), (63, 37887),

Gene: BetterYeti_55 Start: 37708, Stop: 38343, Start Num: 1

Candidate Starts for BetterYeti_55:

(Start: 1 @37708 has 57 MA's), (18, 37915), (26, 38059), (62, 38314), (63, 38326),

Gene: Blanky_55 Start: 39240, Stop: 39881, Start Num: 1

Candidate Starts for Blanky_55:

(Start: 1 @39240 has 57 MA's), (3, 39288), (5, 39336), (12, 39384), (18, 39447), (26, 39591), (28, 39615), (29, 39630), (52, 39780), (53, 39795), (62, 39852), (63, 39864),

Gene: BluerMoon_53 Start: 37653, Stop: 38291, Start Num: 1

Candidate Starts for BluerMoon_53:

(Start: 1 @37653 has 57 MA's), (18, 37860), (19, 37866), (26, 38004), (50, 38184), (62, 38262), (63, 38274),

Gene: Bugg_56 Start: 37002, Stop: 37619, Start Num: 1

Candidate Starts for Bugg_56:

(Start: 1 @37002 has 57 MA's), (Start: 2 @37005 has 5 MA's), (18, 37209), (26, 37353), (46, 37518), (63, 37605),

Gene: Burley_55 Start: 37396, Stop: 38031, Start Num: 1

Candidate Starts for Burley_55:

(Start: 1 @37396 has 57 MA's), (18, 37603), (26, 37747), (62, 38002), (63, 38014),

Gene: CWormy_54 Start: 37347, Stop: 37982, Start Num: 1

Candidate Starts for CWormy_54:

(Start: 1 @37347 has 57 MA's), (18, 37554), (26, 37698), (62, 37953), (63, 37965),

Gene: Camille_40 Start: 28210, Stop: 28920, Start Num: 1

Candidate Starts for Camille_40:

(Start: 1 @28210 has 57 MA's), (10, 28339), (14, 28366), (21, 28486), (27, 28558), (29, 28585), (54, 28756),

Gene: Captrips_53 Start: 36432, Stop: 37049, Start Num: 1

Candidate Starts for Captrips_53:

(Start: 1 @36432 has 57 MA's), (Start: 2 @36435 has 5 MA's), (18, 36639), (26, 36783), (46, 36948), (51, 36957), (63, 37035),

Gene: Capybara_54 Start: 36783, Stop: 37382, Start Num: 1

Candidate Starts for Capybara_54:

(Start: 1 @36783 has 57 MA's), (Start: 2 @36786 has 5 MA's), (6, 36885), (18, 36990), (26, 37134), (42, 37284), (46, 37299), (63, 37368),

Gene: ChickyNuggy_56 Start: 37041, Stop: 37658, Start Num: 1

Candidate Starts for ChickyNuggy_56:

(Start: 1 @37041 has 57 MA's), (Start: 2 @37044 has 5 MA's), (18, 37248), (26, 37392), (51, 37566), (63, 37644),

Gene: Chikenjars_53 Start: 37622, Stop: 38260, Start Num: 1

Candidate Starts for Chikenjars_53:

(Start: 1 @37622 has 57 MA's), (18, 37829), (19, 37835), (26, 37973), (50, 38153), (62, 38231), (63, 38243),

Gene: Citrus_54 Start: 37900, Stop: 38538, Start Num: 1

Candidate Starts for Citrus_54:

(Start: 1 @37900 has 57 MA's), (18, 38107), (19, 38113), (26, 38251), (50, 38431), (62, 38509), (63, 38521),

Gene: Conley_53 Start: 37570, Stop: 38184, Start Num: 1

Candidate Starts for Conley_53:

(Start: 1 @37570 has 57 MA's), (Start: 2 @37573 has 5 MA's), (18, 37777), (26, 37921), (33, 37990), (34, 38017), (43, 38074), (63, 38170),

Gene: Count_67 Start: 45298, Stop: 46026, Start Num: 1

Candidate Starts for Count_67:

(Start: 1 @45298 has 57 MA's), (18, 45487), (27, 45646), (32, 45697), (49, 45814), (55, 45844), (60, 45877), (68, 46009),

Gene: Crocheter_55 Start: 37792, Stop: 38427, Start Num: 1

Candidate Starts for Crocheter_55:

(Start: 1 @37792 has 57 MA's), (18, 37999), (26, 38143), (62, 38398), (63, 38410),

Gene: Damascus_42 Start: 29644, Stop: 30312, Start Num: 1

Candidate Starts for Damascus_42:

(Start: 1 @29644 has 57 MA's), (10, 29773), (16, 29821), (21, 29920), (27, 29992), (29, 30019), (38, 30118), (63, 30250),

Gene: Dancer_54 Start: 36692, Stop: 37309, Start Num: 1

Candidate Starts for Dancer_54:

(Start: 1 @36692 has 57 MA's), (Start: 2 @36695 has 5 MA's), (18, 36899), (26, 37043), (46, 37208), (63, 37295),

Gene: Demure_52 Start: 36745, Stop: 37380, Start Num: 1

Candidate Starts for Demure_52:

(Start: 1 @36745 has 57 MA's), (18, 36952), (20, 36997), (22, 37054), (26, 37096), (62, 37351), (63, 37363),

Gene: Dialga_55 Start: 37961, Stop: 38596, Start Num: 1

Candidate Starts for Dialga_55:

(Start: 1 @37961 has 57 MA's), (18, 38168), (26, 38312), (62, 38567), (63, 38579),

Gene: DizzyRudy_44 Start: 29531, Stop: 30199, Start Num: 1

Candidate Starts for DizzyRudy_44:

(Start: 1 @29531 has 57 MA's), (10, 29660), (16, 29708), (21, 29807), (27, 29879), (29, 29906), (36, 29993), (38, 30005), (63, 30137),

Gene: Duffington_53 Start: 37317, Stop: 37955, Start Num: 1

Candidate Starts for Duffington_53:

(Start: 1 @37317 has 57 MA's), (18, 37524), (19, 37530), (26, 37668), (50, 37848), (62, 37926), (63, 37938),

Gene: Eddiemania_57 Start: 38537, Stop: 39172, Start Num: 1

Candidate Starts for Eddiemania_57:

(Start: 1 @38537 has 57 MA's), (18, 38744), (19, 38750), (26, 38888), (62, 39143), (63, 39155),

Gene: EndAve_56 Start: 37790, Stop: 38428, Start Num: 1

Candidate Starts for EndAve_56:

(Start: 1 @37790 has 57 MA's), (18, 37997), (19, 38003), (26, 38141), (50, 38321), (62, 38399), (63, 38411),

Gene: Fazel_55 Start: 37262, Stop: 37894, Start Num: 1

Candidate Starts for Fazel_55:

(Start: 1 @37262 has 57 MA's), (3, 37310), (12, 37406), (18, 37469), (26, 37613), (29, 37652), (43, 37766), (57, 37829), (62, 37865), (63, 37877),

Gene: Figliar_53 Start: 37692, Stop: 38330, Start Num: 1

Candidate Starts for Figliar_53:

(Start: 1 @37692 has 57 MA's), (18, 37899), (19, 37905), (26, 38043), (50, 38223), (62, 38301), (63, 38313),

Gene: Football_56 Start: 36838, Stop: 37455, Start Num: 1

Candidate Starts for Football_56:

(Start: 1 @36838 has 57 MA's), (Start: 2 @36841 has 5 MA's), (18, 37045), (26, 37189), (46, 37354), (51, 37363), (63, 37441),

Gene: FortCran_54 Start: 36957, Stop: 37574, Start Num: 1

Candidate Starts for FortCran_54:

(Start: 1 @36957 has 57 MA's), (Start: 2 @36960 has 5 MA's), (18, 37164), (26, 37308), (46, 37473), (63, 37560),

Gene: Gill_54 Start: 36803, Stop: 37399, Start Num: 2

Candidate Starts for Gill_54:

(Start: 1 @36800 has 57 MA's), (Start: 2 @36803 has 5 MA's), (6, 36902), (18, 37007), (26, 37151), (42, 37301), (46, 37316), (63, 37385),

Gene: Glintora_56 Start: 38232, Stop: 38879, Start Num: 1

Candidate Starts for Glintora_56:

(Start: 1 @38232 has 57 MA's), (18, 38439), (26, 38583), (56, 38808), (59, 38817), (62, 38853),

Gene: Gravy_53 Start: 36473, Stop: 37072, Start Num: 1

Candidate Starts for Gravy_53:

(Start: 1 @36473 has 57 MA's), (Start: 2 @36476 has 5 MA's), (6, 36575), (18, 36680), (26, 36824), (42, 36974), (46, 36989), (63, 37058),

Gene: Gusicorn_56 Start: 37709, Stop: 38344, Start Num: 1

Candidate Starts for Gusicorn_56:

(Start: 1 @37709 has 57 MA's), (18, 37916), (26, 38060), (62, 38315), (63, 38327),

Gene: Hortihabitatio_55 Start: 37498, Stop: 38130, Start Num: 1

Candidate Starts for Hortihabitatio_55:

(Start: 1 @37498 has 57 MA's), (3, 37546), (4, 37555), (5, 37594), (7, 37612), (18, 37705), (26, 37849), (29, 37888), (34, 37945), (43, 38002), (62, 38101), (63, 38113),

Gene: Hydrus_57 Start: 38564, Stop: 39199, Start Num: 1

Candidate Starts for Hydrus_57:

(Start: 1 @38564 has 57 MA's), (18, 38771), (26, 38915), (62, 39170), (63, 39182),

Gene: Jodelie19_54 Start: 39096, Stop: 39734, Start Num: 1

Candidate Starts for Jodelie19_54:

(Start: 1 @39096 has 57 MA's), (18, 39303), (19, 39309), (26, 39447), (50, 39627), (62, 39705), (63, 39717),

Gene: JulesRay_54 Start: 36969, Stop: 37583, Start Num: 2

Candidate Starts for JulesRay_54:

(Start: 1 @36966 has 57 MA's), (Start: 2 @36969 has 5 MA's), (18, 37173), (26, 37317), (51, 37491), (63, 37569),

Gene: Kenosha_54 Start: 38023, Stop: 38658, Start Num: 1

Candidate Starts for Kenosha_54:

(Start: 1 @38023 has 57 MA's), (18, 38230), (19, 38236), (26, 38374), (62, 38629), (63, 38641),

Gene: Kerry_53 Start: 36473, Stop: 37072, Start Num: 1

Candidate Starts for Kerry_53:

(Start: 1 @36473 has 57 MA's), (Start: 2 @36476 has 5 MA's), (6, 36575), (18, 36680), (26, 36824), (42, 36974), (46, 36989), (63, 37058),

Gene: Luthien_57 Start: 37788, Stop: 38426, Start Num: 1

Candidate Starts for Luthien_57:

(Start: 1 @37788 has 57 MA's), (18, 37995), (19, 38001), (26, 38139), (50, 38319), (62, 38397), (63, 38409),

Gene: Madvan_55 Start: 37433, Stop: 38068, Start Num: 1

Candidate Starts for Madvan_55:

(Start: 1 @37433 has 57 MA's), (18, 37640), (26, 37784), (62, 38039), (63, 38051),

Gene: Magel_55 Start: 36719, Stop: 37315, Start Num: 2

Candidate Starts for Magel_55:

(Start: 1 @36716 has 57 MA's), (Start: 2 @36719 has 5 MA's), (6, 36818), (18, 36923), (26, 37067), (42, 37217), (46, 37232), (63, 37301),

Gene: MajinBuu_54 Start: 37725, Stop: 38363, Start Num: 1

Candidate Starts for MajinBuu_54:

(Start: 1 @37725 has 57 MA's), (18, 37932), (19, 37938), (26, 38076), (62, 38334), (63, 38346),

Gene: Mema_40 Start: 30943, Stop: 31716, Start Num: 1

Candidate Starts for Mema_40:

(Start: 1 @30943 has 57 MA's), (10, 31072), (21, 31219), (23, 31237), (27, 31291), (29, 31318), (35, 31405), (65, 31576), (66, 31591), (67, 31618),

Gene: Mossy_58 Start: 39452, Stop: 40093, Start Num: 1

Candidate Starts for Mossy_58:

(Start: 1 @39452 has 57 MA's), (3, 39500), (5, 39548), (12, 39596), (18, 39659), (26, 39803), (28, 39827), (29, 39842), (52, 39992), (53, 40007), (62, 40064), (63, 40076),

Gene: Mysticmoon_55 Start: 38307, Stop: 38939, Start Num: 1

Candidate Starts for Mysticmoon_55:

(Start: 1 @38307 has 57 MA's), (3, 38355), (5, 38403), (12, 38451), (18, 38514), (22, 38616), (26, 38658), (29, 38697), (34, 38754), (44, 38817), (51, 38838), (57, 38874), (62, 38910), (63, 38922),

Gene: Nadmeg_56 Start: 38679, Stop: 39314, Start Num: 1

Candidate Starts for Nadmeg_56:

(Start: 1 @38679 has 57 MA's), (18, 38886), (26, 39030), (62, 39285), (63, 39297),

Gene: Nithya_55 Start: 37534, Stop: 38172, Start Num: 1

Candidate Starts for Nithya_55:

(Start: 1 @37534 has 57 MA's), (18, 37741), (19, 37747), (26, 37885), (50, 38065), (62, 38143), (63, 38155),

Gene: NoPickles_53 Start: 36141, Stop: 36737, Start Num: 2

Candidate Starts for NoPickles_53:

(Start: 1 @36138 has 57 MA's), (Start: 2 @36141 has 5 MA's), (6, 36240), (18, 36345), (26, 36489), (42, 36639), (46, 36654), (63, 36723),

Gene: Odesza_53 Start: 36528, Stop: 37145, Start Num: 1

Candidate Starts for Odesza_53:

(Start: 1 @36528 has 57 MA's), (Start: 2 @36531 has 5 MA's), (6, 36630), (18, 36735), (26, 36879), (63, 37131),

Gene: OhMyWard_53 Start: 38645, Stop: 39286, Start Num: 1

Candidate Starts for OhMyWard_53:

(Start: 1 @38645 has 57 MA's), (3, 38693), (5, 38741), (12, 38789), (18, 38852), (26, 38996), (28, 39020), (29, 39035), (34, 39092), (52, 39185), (53, 39200), (62, 39257), (63, 39269),

Gene: OlgasClover_56 Start: 38677, Stop: 39315, Start Num: 1

Candidate Starts for OlgasClover_56:

(Start: 1 @38677 has 57 MA's), (18, 38884), (19, 38890), (26, 39028), (50, 39208), (62, 39286), (63, 39298),

Gene: Pepy6_090 Start: 47253, Stop: 47894, Start Num: 1

Candidate Starts for Pepy6_090:

(Start: 1 @47253 has 57 MA's), (8, 47376), (9, 47385), (18, 47457), (24, 47568), (25, 47589), (26, 47601), (27, 47613), (28, 47625), (40, 47742), (47, 47772), (50, 47781), (58, 47826), (64, 47883),

Gene: Perkunas_55 Start: 36810, Stop: 37424, Start Num: 1

Candidate Starts for Perkunas_55:

(Start: 1 @36810 has 57 MA's), (Start: 2 @36813 has 5 MA's), (6, 36912), (18, 37017), (26, 37161), (45, 37317), (51, 37332), (63, 37410),

Gene: PerroGrande22_72 Start: 49695, Stop: 50330, Start Num: 1

Candidate Starts for PerroGrande22_72:

(Start: 1 @49695 has 57 MA's), (17, 49893), (18, 49899), (22, 50001), (24, 50010), (27, 50055), (39, 50172), (41, 50178), (58, 50262), (62, 50301),

Gene: PestoPenguin_58 Start: 37709, Stop: 38344, Start Num: 1

Candidate Starts for PestoPenguin_58:

(Start: 1 @37709 has 57 MA's), (18, 37916), (26, 38060), (62, 38315), (63, 38327),

Gene: Petito_56 Start: 38630, Stop: 39244, Start Num: 1

Candidate Starts for Petito_56:

(Start: 1 @38630 has 57 MA's), (Start: 2 @38633 has 5 MA's), (18, 38837), (26, 38981), (33, 39050), (34, 39077), (37, 39116), (45, 39137), (51, 39152), (63, 39230),

Gene: Phepper_56 Start: 37695, Stop: 38330, Start Num: 1

Candidate Starts for Phepper_56:

(Start: 1 @37695 has 57 MA's), (18, 37902), (26, 38046), (62, 38301), (63, 38313),

Gene: Pherobrine_56 Start: 38600, Stop: 39232, Start Num: 1

Candidate Starts for Pherobrine_56:

(Start: 1 @38600 has 57 MA's), (3, 38648), (5, 38696), (12, 38744), (18, 38807), (22, 38909), (26, 38951), (29, 38990), (34, 39047), (44, 39110), (51, 39131), (57, 39167), (62, 39203), (63, 39215),

Gene: Poco6_088 Start: 49493, Stop: 50125, Start Num: 1

Candidate Starts for Poco6_088:

(Start: 1 @49493 has 57 MA's), (8, 49616), (9, 49625), (18, 49697), (24, 49808), (25, 49829), (26, 49841), (27, 49853), (28, 49865), (30, 49901), (39, 49967), (41, 49973), (51, 50012), (58, 50057), (60, 50069), (61, 50093), (62, 50096),

Gene: Rickmore_51 Start: 35485, Stop: 36111, Start Num: 1

Candidate Starts for Rickmore_51:

(Start: 1 @35485 has 57 MA's), (13, 35644), (18, 35692), (20, 35737), (26, 35836), (31, 35899), (48, 36004), (52, 36013), (63, 36094),

Gene: Roney_54 Start: 36826, Stop: 37425, Start Num: 1

Candidate Starts for Roney_54:

(Start: 1 @36826 has 57 MA's), (Start: 2 @36829 has 5 MA's), (6, 36928), (18, 37033), (26, 37177), (42, 37327), (46, 37342), (63, 37411),

Gene: Runhaar_55 Start: 37495, Stop: 38130, Start Num: 1

Candidate Starts for Runhaar_55:

(Start: 1 @37495 has 57 MA's), (18, 37702), (26, 37846), (62, 38101), (63, 38113),

Gene: Schwartz33_56 Start: 37627, Stop: 38241, Start Num: 1

Candidate Starts for Schwartz33_56:

(Start: 1 @37627 has 57 MA's), (5, 37723), (15, 37810), (18, 37834), (26, 37978), (34, 38068), (62, 38212), (63, 38224),

Gene: Secretariat_54 Start: 36535, Stop: 37155, Start Num: 1

Candidate Starts for Secretariat_54:

(Start: 1 @36535 has 57 MA's), (11, 36673), (18, 36742), (26, 36886), (62, 37126), (63, 37138),

Gene: ShaggyRogers_55 Start: 37445, Stop: 38080, Start Num: 1

Candidate Starts for ShaggyRogers_55:

(Start: 1 @37445 has 57 MA's), (18, 37652), (26, 37796), (62, 38051), (63, 38063),

Gene: SweetCrkHerbs_55 Start: 36502, Stop: 37116, Start Num: 1

Candidate Starts for SweetCrkHerbs_55:

(Start: 1 @36502 has 57 MA's), (Start: 2 @36505 has 5 MA's), (6, 36604), (18, 36709), (26, 36853), (45, 37009), (51, 37024), (63, 37102),

Gene: Tairn4Wing_56 Start: 36785, Stop: 37402, Start Num: 1
Candidate Starts for Tairn4Wing_56:
(Start: 1 @36785 has 57 MA's), (Start: 2 @36788 has 5 MA's), (18, 36992), (26, 37136), (51, 37310),
(63, 37388),

Gene: Talon44_55 Start: 36844, Stop: 37458, Start Num: 1
Candidate Starts for Talon44_55:
(Start: 1 @36844 has 57 MA's), (Start: 2 @36847 has 5 MA's), (6, 36946), (18, 37051), (26, 37195),
(45, 37351), (51, 37366), (63, 37444),

Gene: Tanis_54 Start: 36646, Stop: 37245, Start Num: 1
Candidate Starts for Tanis_54:
(Start: 1 @36646 has 57 MA's), (Start: 2 @36649 has 5 MA's), (6, 36748), (18, 36853), (26, 36997),
(42, 37147), (46, 37162), (63, 37231),

Gene: TenaciousP_55 Start: 39058, Stop: 39696, Start Num: 1
Candidate Starts for TenaciousP_55:
(Start: 1 @39058 has 57 MA's), (18, 39265), (19, 39271), (26, 39409), (50, 39589), (62, 39667), (63,
39679),

Gene: Tonaltzin_58 Start: 37628, Stop: 38266, Start Num: 1
Candidate Starts for Tonaltzin_58:
(Start: 1 @37628 has 57 MA's), (18, 37835), (19, 37841), (26, 37979), (50, 38159), (62, 38237), (63,
38249),

Gene: Trufflozitus_55 Start: 37308, Stop: 37925, Start Num: 1
Candidate Starts for Trufflozitus_55:
(Start: 1 @37308 has 57 MA's), (Start: 2 @37311 has 5 MA's), (18, 37515), (26, 37659), (51, 37833),
(63, 37911),

Gene: Untouchable_56 Start: 38044, Stop: 38679, Start Num: 1
Candidate Starts for Untouchable_56:
(Start: 1 @38044 has 57 MA's), (18, 38251), (26, 38395), (62, 38650), (63, 38662),

Gene: Vardy_54 Start: 37385, Stop: 38020, Start Num: 1
Candidate Starts for Vardy_54:
(Start: 1 @37385 has 57 MA's), (18, 37592), (26, 37736), (62, 37991), (63, 38003),

Gene: Zeph_57 Start: 38532, Stop: 39167, Start Num: 1
Candidate Starts for Zeph_57:
(Start: 1 @38532 has 57 MA's), (18, 38739), (20, 38784), (22, 38841), (26, 38883), (62, 39138), (63,
39150),