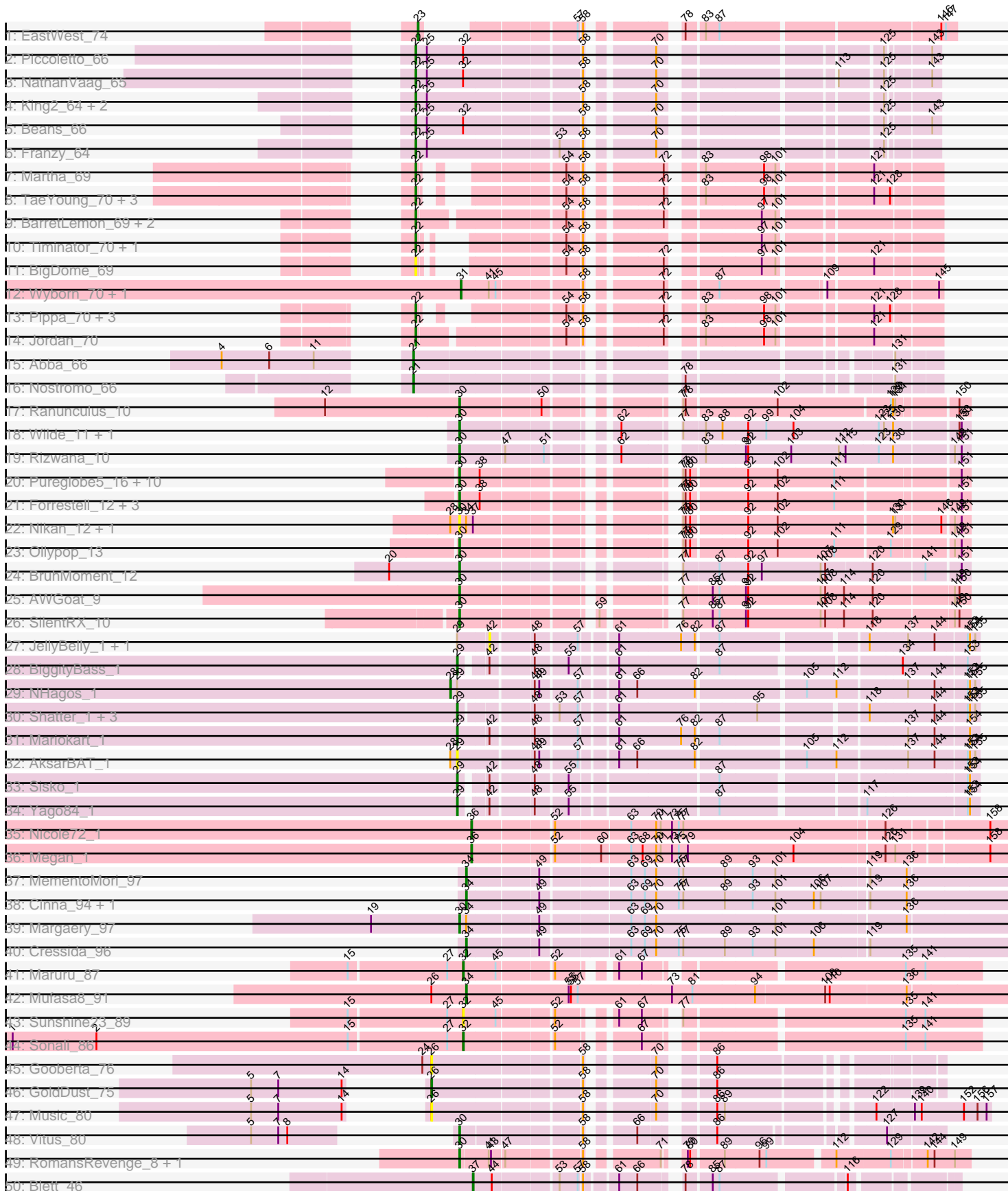


Pham 304877



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 304877 Report

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

Pham number 304877 has 106 members, 25 are drafts.

Phages represented in each track:

- Track 1 : EastWest_74
- Track 2 : Piccoletto_66
- Track 3 : NathanVaag_65
- Track 4 : King2_64, Brent_66, Jawnski_65
- Track 5 : Beans_66
- Track 6 : Franzy_64
- Track 7 : Martha_69
- Track 8 : TaeYoung_70, JKerns_69, Grekaycon_70, BossLady_71
- Track 9 : BarretLemon_69, GravityBall_69, StevieBAY_70
- Track 10 : Timinator_70, LeeroyJ_70
- Track 11 : BigDome_69
- Track 12 : Wyborn_70, Sicarius2_71
- Track 13 : Pippa_70, Shade_69, Sonny_69, Zartrosa_71
- Track 14 : Jordan_70
- Track 15 : Abba_66
- Track 16 : Nostromo_66
- Track 17 : Ranunculus_10
- Track 18 : Wilde_11, Tank_11
- Track 19 : Rizwana_10
- Track 20 : Pureglobe5_16, Hive_13, PhuzzTulsa_12, Kubulix_15, DogYard_14, Popstraw_13, Odyssey395_16, Beagle_15, Pointis_14, RIPWilbur_12, BetaFish_14
- Track 21 : Forrestell_12, NyleyClemson_11, MellowYellow_12, RazzB_11
- Track 22 : Nikan_12, Ren19_10
- Track 23 : Ollypop_13
- Track 24 : BruhMoment_12
- Track 25 : AWGoat_9
- Track 26 : SilentRX_10
- Track 27 : JellyBelly_1, CharlottesWeb_1
- Track 28 : BiggityBass_1
- Track 29 : NHagos_1
- Track 30 : Shatter_1, Fresco_1, Axumite_1, Ligma_1
- Track 31 : Mariokart_1
- Track 32 : AksarBAT_1
- Track 33 : Sisko_1
- Track 34 : Yago84_1
- Track 35 : Nicole72_1
- Track 36 : Megan_1

- Track 37 : MementoMori_97
- Track 38 : Cinna_94, Matzah_98
- Track 39 : Margaery_97
- Track 40 : Cressida_96
- Track 41 : Maruru_87
- Track 42 : Mufasa8_91
- Track 43 : Sunshine23_89
- Track 44 : Sonali_86
- Track 45 : Gooberta_76
- Track 46 : GoldDust_75
- Track 47 : Music_80
- Track 48 : Vitus_80
- Track 49 : RomansRevenge_8, Boise_8
- Track 50 : Blett_46
- Track 51 : ScoobySnack_43
- Track 52 : NCRodriguez_48, Bush_47
- Track 53 : Guzman_46, CookieDog_46, Carrillo_48, Violeta_48
- Track 54 : Antuna_48, Mariel_49
- Track 55 : Phonegingi_46
- Track 56 : Winchester007_62, Appa_46, PhillyJawn_47, Dropshot_46
- Track 57 : Warren_46
- Track 58 : Phingu_49
- Track 59 : Losacky_48
- Track 60 : Jakelyne_49
- Track 61 : Pickles13_45
- Track 62 : MenE_48
- Track 63 : Wrackline_72
- Track 64 : TurkishDelight_122
- Track 65 : Jace_85

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 22 of the 81 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BarretLemon_69, Beans_66, BigDome_69, BossLady_71, Brent_66, Franzy_64, GravityBall_69, Grekaycon_70, JKerns_69, Jawnski_65, Jordan_70, King2_64, LeeroyJ_70, Martha_69, NathanVaag_65, Piccoletto_66, Pippa_70, Shade_69, Sonny_69, StevieBAY_70, TaeYoung_70, Timinator_70, Zartrosa_71,

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

-

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

- AWGoat_9, Abba_66, AksarBAT_1, Antuna_48, Appa_46, Axumite_1, Beagle_15, BetaFish_14, BiggityBass_1, Blett_46, Boise_8, BruhMoment_12, Bush_47, Carrillo_48, CharlottesWeb_1, Cinna_94, CookieDog_46, Cressida_96, DogYard_14, Dropshot_46, EastWest_74, Forrestell_12, Fresco_1, GoldDust_75, Gooberta_76, Guzman_46, Hive_13, Jace_85, Jakelyne_49, JellyBelly_1, Kubulix_15, Ligma_1,

Losacky_48, Margaery_97, Mariel_49, Mariokart_1, Maruru_87, Matzah_98, Megan_1, MellowYellow_12, MementoMori_97, MenE_48, Mufasa8_91, Music_80, NCRodriguez_48, NHagos_1, Nicole72_1, Nikan_12, Nostromo_66, NyleyClemson_11, Odyssey395_16, Ollypop_13, PhillyJawn_47, Phingu_49, Phonegingi_46, PhuzzTulsa_12, Pickles13_45, Pointis_14, Popstraw_13, Pureglobe5_16, RIPWilbur_12, Ranunculus_10, RazzB_11, Ren19_10, Rizwana_10, RomansRevenge_8, ScoobySnack_43, Shatter_1, Sicarius2_71, SilentRX_10, Sisko_1, Sonali_86, Sunshine23_89, Tank_11, TurkishDelight_122, Violeta_48, Vitus_80, Warren_46, Wilde_11, Winchester007_62, Wrackline_72, Wyborn_70, Yago84_1,

Summary by start number:

Start 21:

- Found in 2 of 106 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba_66 (AO3), Nostromo_66 (AO3),

Start 22:

- Found in 23 of 106 (21.7%) of genes in pham
- Manual Annotations of this start: 22 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BarretLemon_69 (AO2), Beans_66 (AO1), BigDome_69 (AO2), BossLady_71 (AO2), Brent_66 (AO1), Franzy_64 (AO1), GravityBall_69 (AO2), Grekaycon_70 (AO2), JKerns_69 (AO2), Jawnski_65 (AO1), Jordan_70 (AO2), King2_64 (AO1), LeeroyJ_70 (AO2), Martha_69 (AO2), NathanVaag_65 (AO1), Piccoletto_66 (AO1), Pippa_70 (AO2), Shade_69 (AO2), Sonny_69 (AO2), StevieBAY_70 (AO2), TaeYoung_70 (AO2), Timinator_70 (AO2), Zartrosa_71 (AO2),

Start 23:

- Found in 1 of 106 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: EastWest_74 (AO),

Start 26:

- Found in 4 of 106 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 75.0% of time when present
- Phage (with cluster) where this start called: GoldDust_75 (FL), Gooberta_76 (FL), Music_80 (FL),

Start 28:

- Found in 4 of 106 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 25.0% of time when present
- Phage (with cluster) where this start called: NHagos_1 (DR),

Start 29:

- Found in 12 of 106 (11.3%) of genes in pham
- Manual Annotations of this start: 8 of 81

- Called 75.0% of time when present
- Phage (with cluster) where this start called: AksarBAT_1 (DR), Axumite_1 (DR), BiggityBass_1 (DR), Fresco_1 (DR), Ligma_1 (DR), Mariokart_1 (DR), Shatter_1 (DR), Sisko_1 (DR), Yago84_1 (DR),

Start 30:

- Found in 29 of 106 (27.4%) of genes in pham
- Manual Annotations of this start: 21 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AWGoat_9 (AP4), Beagle_15 (AP2), BetaFish_14 (AP2), Boise_8 (FT), BruhMoment_12 (AP3), DogYard_14 (AP2), Forrestell_12 (AP2), Hive_13 (AP2), Kubulix_15 (AP2), Margaery_97 (EI), MellowYellow_12 (AP2), Nikan_12 (AP2), NyleyClemson_11 (AP2), Odyssey395_16 (AP2), Ollypop_13 (AP2), PhuzzTulsa_12 (AP2), Pointis_14 (AP2), Popstraw_13 (AP2), Pureglobe5_16 (AP2), RIPWilbur_12 (AP2), Ranunculus_10 (AP), RazzB_11 (AP2), Ren19_10 (AP2), Rizwana_10 (AP1), RomansRevenge_8 (FT), SilentRX_10 (AP4), Tank_11 (AP1), Vitus_80 (FL), Wilde_11 (AP1),

Start 31:

- Found in 2 of 106 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sicarius2_71 (AO2), Wyborn_70 (AO2),

Start 32:

- Found in 6 of 106 (5.7%) of genes in pham
- Manual Annotations of this start: 2 of 81
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Maruru_87 (FG), Sonali_86 (FG), Sunshine23_89 (FG),

Start 34:

- Found in 8 of 106 (7.5%) of genes in pham
- Manual Annotations of this start: 5 of 81
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Cinna_94 (EI), Cressida_96 (EI), Matzah_98 (EI), MementoMori_97 (EI), Mufasa8_91 (FG),

Start 35:

- Found in 1 of 106 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TurkishDelight_122 (singleton),

Start 36:

- Found in 2 of 106 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Megan_1 (EC), Nicole72_1 (EC),

Start 37:

- Found in 23 of 106 (21.7%) of genes in pham
- Manual Annotations of this start: 11 of 81

- Called 91.3% of time when present
- Phage (with cluster) where this start called: Antuna_48 (GA), Appa_46 (GA), Blett_46 (GA), Bush_47 (GA), Carrillo_48 (GA), CookieDog_46 (GA), Dropshot_46 (GA), Guzman_46 (GA), Jakelyne_49 (GA), Losacky_48 (GA), Mariel_49 (GA), MenE_48 (GA), NCRodriguez_48 (GA), PhillyJawn_47 (GA), Phingu_49 (GA), Phonegingi_46 (GA), Pickles13_45 (GA), ScoobySnack_43 (GA), Violeta_48 (GA), Warren_46 (GA), Winchester007_62 (GA),

Start 39:

- Found in 2 of 106 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Wrackline_72 (GF),

Start 40:

- Found in 1 of 106 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jace_85 (singleton),

Start 42:

- Found in 6 of 106 (5.7%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: CharlottesWeb_1 (DR), JellyBelly_1 (DR),

Summary by clusters:

There are 18 clusters represented in this pham: AO, singleton, EI, AO1, AP, AP2, DR, AP1, AP4, AP3, GF, EC, AO3, AO2, GA, FG, FT, FL,

Info for manual annotations of cluster AO:

- Start number 23 was manually annotated 1 time for cluster AO.

Info for manual annotations of cluster AO1:

- Start number 22 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 22 was manually annotated 15 times for cluster AO2.
- Start number 31 was manually annotated 2 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 21 was manually annotated 2 times for cluster AO3.

Info for manual annotations of cluster AP:

- Start number 30 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 30 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 30 was manually annotated 11 times for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 30 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 30 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster DR:

- Start number 28 was manually annotated 1 time for cluster DR.
- Start number 29 was manually annotated 8 times for cluster DR.

Info for manual annotations of cluster EC:

- Start number 36 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 30 was manually annotated 1 time for cluster EI.
- Start number 34 was manually annotated 4 times for cluster EI.

Info for manual annotations of cluster FG:

- Start number 32 was manually annotated 2 times for cluster FG.
- Start number 34 was manually annotated 1 time for cluster FG.

Info for manual annotations of cluster FL:

- Start number 26 was manually annotated 1 time for cluster FL.
- Start number 30 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster FT:

- Start number 30 was manually annotated 1 time for cluster FT.

Info for manual annotations of cluster GA:

- Start number 37 was manually annotated 11 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 39 was manually annotated 1 time for cluster GF.

Gene Information:

Gene: AWGoat_9 Start: 3580, Stop: 4173, Start Num: 30

Candidate Starts for AWGoat_9:

(Start: 30 @3580 has 21 MA's), (77, 3808), (85, 3844), (87, 3853), (91, 3886), (92, 3889), (107, 3985), (108, 3991), (114, 4015), (120, 4051), (149, 4153), (150, 4159),

Gene: Abba_66 Start: 41901, Stop: 42479, Start Num: 21

Candidate Starts for Abba_66:

(4, 41721), (6, 41784), (11, 41841), (Start: 21 @41901 has 2 MA's), (131, 42423),

Gene: AksarBAT_1 Start: 10, Stop: 633, Start Num: 29

Candidate Starts for AksarBAT_1:

(Start: 28 @1 has 1 MA's), (Start: 29 @10 has 8 MA's), (48, 103), (49, 109), (57, 154), (61, 193), (66, 217), (82, 292), (105, 424), (112, 463), (137, 547), (144, 580), (153, 619), (154, 622), (155, 628),

Gene: Antuna_48 Start: 29370, Stop: 29903, Start Num: 37

Candidate Starts for Antuna_48:

(9, 29136), (10, 29148), (17, 29226), (Start: 37 @29370 has 11 MA's), (44, 29394), (53, 29472), (57, 29496), (58, 29499), (61, 29535), (66, 29559), (78, 29598), (85, 29628), (87, 29637), (116, 29784),

Gene: Appa_46 Start: 29135, Stop: 29668, Start Num: 37

Candidate Starts for Appa_46:

(Start: 37 @29135 has 11 MA's), (44, 29159), (53, 29237), (57, 29261), (58, 29264), (61, 29300), (66, 29324), (78, 29363), (85, 29393), (87, 29402), (116, 29549),

Gene: Axumite_1 Start: 1, Stop: 606, Start Num: 29

Candidate Starts for Axumite_1:

(Start: 29 @1 has 8 MA's), (48, 85), (53, 112), (57, 136), (61, 175), (95, 349), (118, 472), (144, 553), (153, 592), (154, 595), (155, 601),

Gene: BarretLemon_69 Start: 44545, Stop: 45120, Start Num: 22

Candidate Starts for BarretLemon_69:

(Start: 22 @44545 has 22 MA's), (54, 44716), (58, 44734), (72, 44809), (97, 44911), (101, 44929),

Gene: Beagle_15 Start: 4696, Stop: 5277, Start Num: 30

Candidate Starts for Beagle_15:

(Start: 30 @4696 has 21 MA's), (38, 4723), (77, 4924), (78, 4927), (80, 4933), (92, 5002), (102, 5041), (111, 5116), (151, 5266),

Gene: Beans_66 Start: 44464, Stop: 45042, Start Num: 22

Candidate Starts for Beans_66:

(Start: 22 @44464 has 22 MA's), (25, 44479), (Start: 32 @44527 has 2 MA's), (58, 44668), (70, 44737), (125, 44980), (143, 45031),

Gene: BetaFish_14 Start: 4896, Stop: 5477, Start Num: 30

Candidate Starts for BetaFish_14:

(Start: 30 @4896 has 21 MA's), (38, 4923), (77, 5124), (78, 5127), (80, 5133), (92, 5202), (102, 5241), (111, 5316), (151, 5466),

Gene: BigDome_69 Start: 44829, Stop: 45359, Start Num: 22

Candidate Starts for BigDome_69:

(Start: 22 @44829 has 22 MA's), (54, 44955), (58, 44973), (72, 45048), (97, 45150), (101, 45168), (121, 45276),

Gene: BiggityBass_1 Start: 1, Stop: 600, Start Num: 29

Candidate Starts for BiggityBass_1:

(Start: 29 @1 has 8 MA's), (42, 28), (48, 79), (55, 118), (61, 169), (87, 295), (134, 508), (153, 586),

Gene: Blett_46 Start: 29321, Stop: 29854, Start Num: 37

Candidate Starts for Blett_46:

(Start: 37 @29321 has 11 MA's), (44, 29345), (53, 29423), (57, 29447), (58, 29450), (61, 29486), (66, 29510), (78, 29549), (85, 29579), (87, 29588), (116, 29735),

Gene: Boise_8 Start: 3035, Stop: 3610, Start Num: 30

Candidate Starts for Boise_8:

(Start: 30 @3035 has 21 MA's), (41, 3071), (43, 3074), (47, 3089), (58, 3179), (71, 3254), (79, 3266), (80, 3269), (89, 3308), (96, 3353), (99, 3362), (112, 3443), (129, 3512), (142, 3554), (144, 3563), (149, 3590),

Gene: BossLady_71 Start: 45159, Stop: 45689, Start Num: 22

Candidate Starts for BossLady_71:

(Start: 22 @45159 has 22 MA's), (54, 45285), (58, 45303), (72, 45378), (83, 45408), (98, 45483), (101, 45498), (121, 45606), (128, 45627),

Gene: Brent_66 Start: 44549, Stop: 45127, Start Num: 22

Candidate Starts for Brent_66:

(Start: 22 @44549 has 22 MA's), (25, 44564), (58, 44753), (70, 44822), (125, 45065),

Gene: BruhMoment_12 Start: 4721, Stop: 5308, Start Num: 30

Candidate Starts for BruhMoment_12:

(20, 4628), (Start: 30 @4721 has 21 MA's), (77, 4949), (87, 4994), (92, 5030), (97, 5048), (107, 5126), (108, 5132), (120, 5189), (141, 5255), (151, 5297),

Gene: Bush_47 Start: 29269, Stop: 29802, Start Num: 37

Candidate Starts for Bush_47:

(Start: 37 @29269 has 11 MA's), (44, 29293), (53, 29371), (57, 29395), (58, 29398), (61, 29434), (66, 29458), (78, 29497), (85, 29527), (87, 29536), (116, 29683),

Gene: Carrillo_48 Start: 29243, Stop: 29776, Start Num: 37

Candidate Starts for Carrillo_48:

(17, 29099), (Start: 37 @29243 has 11 MA's), (44, 29267), (53, 29345), (57, 29369), (58, 29372), (61, 29408), (66, 29432), (78, 29471), (85, 29501), (87, 29510), (116, 29657),

Gene: CharlottesWeb_1 Start: 40, Stop: 612, Start Num: 42

Candidate Starts for CharlottesWeb_1:

(Start: 29 @1 has 8 MA's), (42, 40), (48, 91), (57, 142), (61, 181), (76, 262), (82, 280), (87, 307), (118, 478), (137, 526), (144, 559), (153, 598), (154, 601), (155, 607),

Gene: Cinna_94 Start: 54580, Stop: 55263, Start Num: 34

Candidate Starts for Cinna_94:

(Start: 34 @54580 has 5 MA's), (49, 54667), (63, 54775), (69, 54793), (70, 54808), (75, 54838), (77, 54844), (89, 54898), (93, 54934), (101, 54964), (106, 55015), (107, 55024), (119, 55081), (136, 55129),

Gene: CookieDog_46 Start: 29243, Stop: 29776, Start Num: 37

Candidate Starts for CookieDog_46:

(17, 29099), (Start: 37 @29243 has 11 MA's), (44, 29267), (53, 29345), (57, 29369), (58, 29372), (61, 29408), (66, 29432), (78, 29471), (85, 29501), (87, 29510), (116, 29657),

Gene: Cressida_96 Start: 55174, Stop: 55857, Start Num: 34

Candidate Starts for Cressida_96:

(Start: 34 @55174 has 5 MA's), (49, 55261), (63, 55369), (69, 55387), (70, 55402), (75, 55432), (77, 55438), (89, 55492), (93, 55528), (101, 55558), (106, 55609), (119, 55675),

Gene: DogYard_14 Start: 4766, Stop: 5347, Start Num: 30

Candidate Starts for DogYard_14:

(Start: 30 @4766 has 21 MA's), (38, 4793), (77, 4994), (78, 4997), (80, 5003), (92, 5072), (102, 5111), (111, 5186), (151, 5336),

Gene: Dropshot_46 Start: 28970, Stop: 29503, Start Num: 37

Candidate Starts for Dropshot_46:

(Start: 37 @28970 has 11 MA's), (44, 28994), (53, 29072), (57, 29096), (58, 29099), (61, 29135), (66, 29159), (78, 29198), (85, 29228), (87, 29237), (116, 29384),

Gene: EastWest_74 Start: 43726, Stop: 44280, Start Num: 23

Candidate Starts for EastWest_74:

(Start: 23 @43726 has 1 MA's), (57, 43861), (58, 43864), (78, 43951), (83, 43972), (87, 43990), (146, 44260), (147, 44266),

Gene: Forrestell_12 Start: 4123, Stop: 4704, Start Num: 30

Candidate Starts for Forrestell_12:

(Start: 30 @4123 has 21 MA's), (38, 4150), (77, 4351), (78, 4354), (80, 4360), (92, 4429), (102, 4468), (111, 4543), (151, 4693),

Gene: Franzy_64 Start: 44565, Stop: 45143, Start Num: 22

Candidate Starts for Franzy_64:

(Start: 22 @44565 has 22 MA's), (25, 44580), (53, 44742), (58, 44769), (70, 44838), (125, 45081),

Gene: Fresco_1 Start: 1, Stop: 606, Start Num: 29

Candidate Starts for Fresco_1:

(Start: 29 @1 has 8 MA's), (48, 85), (53, 112), (57, 136), (61, 175), (95, 349), (118, 472), (144, 553), (153, 592), (154, 595), (155, 601),

Gene: GoldDust_75 Start: 47538, Stop: 48089, Start Num: 26

Candidate Starts for GoldDust_75:

(5, 47406), (7, 47442), (14, 47526), (Start: 26 @47538 has 1 MA's), (58, 47721), (70, 47787), (86, 47841),

Gene: Gooberta_76 Start: 48265, Stop: 48816, Start Num: 26

Candidate Starts for Gooberta_76:

(24, 48253), (Start: 26 @48265 has 1 MA's), (58, 48448), (70, 48514), (86, 48568),

Gene: GravityBall_69 Start: 44845, Stop: 45375, Start Num: 22

Candidate Starts for GravityBall_69:

(Start: 22 @44845 has 22 MA's), (54, 44971), (58, 44989), (72, 45064), (97, 45166), (101, 45184),

Gene: Grekaycon_70 Start: 45072, Stop: 45602, Start Num: 22

Candidate Starts for Grekaycon_70:

(Start: 22 @45072 has 22 MA's), (54, 45198), (58, 45216), (72, 45291), (83, 45321), (98, 45396), (101, 45411), (121, 45519), (128, 45540),

Gene: Guzman_46 Start: 29226, Stop: 29759, Start Num: 37

Candidate Starts for Guzman_46:

(17, 29082), (Start: 37 @29226 has 11 MA's), (44, 29250), (53, 29328), (57, 29352), (58, 29355), (61, 29391), (66, 29415), (78, 29454), (85, 29484), (87, 29493), (116, 29640),

Gene: Hive_13 Start: 4780, Stop: 5361, Start Num: 30

Candidate Starts for Hive_13:

(Start: 30 @4780 has 21 MA's), (38, 4807), (77, 5008), (78, 5011), (80, 5017), (92, 5086), (102, 5125), (111, 5200), (151, 5350),

Gene: JKerns_69 Start: 45051, Stop: 45626, Start Num: 22

Candidate Starts for JKerns_69:

(Start: 22 @45051 has 22 MA's), (54, 45222), (58, 45240), (72, 45315), (83, 45345), (98, 45420), (101, 45435), (121, 45543), (128, 45564),

Gene: Jace_85 Start: 47046, Stop: 47594, Start Num: 40

Candidate Starts for Jace_85:

(Start: 40 @47046 has 1 MA's), (61, 47202), (65, 47223), (87, 47304), (88, 47307), (100, 47367), (144, 47559), (148, 47577), (150, 47586), (151, 47589),

Gene: Jakelyne_49 Start: 29336, Stop: 29869, Start Num: 37

Candidate Starts for Jakelyne_49:

(9, 29102), (17, 29192), (Start: 37 @29336 has 11 MA's), (44, 29360), (53, 29438), (57, 29462), (58, 29465), (61, 29501), (66, 29525), (78, 29564), (85, 29594), (87, 29603), (116, 29750),

Gene: Jawnski_65 Start: 44074, Stop: 44652, Start Num: 22

Candidate Starts for Jawnski_65:

(Start: 22 @44074 has 22 MA's), (25, 44089), (58, 44278), (70, 44347), (125, 44590),

Gene: JellyBelly_1 Start: 40, Stop: 612, Start Num: 42

Candidate Starts for JellyBelly_1:

(Start: 29 @1 has 8 MA's), (42, 40), (48, 91), (57, 142), (61, 181), (76, 262), (82, 280), (87, 307), (118, 478), (137, 526), (144, 559), (153, 598), (154, 601), (155, 607),

Gene: Jordan_70 Start: 45176, Stop: 45751, Start Num: 22

Candidate Starts for Jordan_70:

(Start: 22 @45176 has 22 MA's), (54, 45347), (58, 45365), (72, 45440), (83, 45470), (98, 45545), (101, 45560), (121, 45668),

Gene: King2_64 Start: 44610, Stop: 45188, Start Num: 22

Candidate Starts for King2_64:

(Start: 22 @44610 has 22 MA's), (25, 44625), (58, 44814), (70, 44883), (125, 45126),

Gene: Kubulix_15 Start: 4895, Stop: 5476, Start Num: 30

Candidate Starts for Kubulix_15:

(Start: 30 @4895 has 21 MA's), (38, 4922), (77, 5123), (78, 5126), (80, 5132), (92, 5201), (102, 5240), (111, 5315), (151, 5465),

Gene: LeeroyJ_70 Start: 44774, Stop: 45304, Start Num: 22

Candidate Starts for LeeroyJ_70:

(Start: 22 @44774 has 22 MA's), (54, 44900), (58, 44918), (97, 45095), (101, 45113),

Gene: Ligma_1 Start: 1, Stop: 606, Start Num: 29

Candidate Starts for Ligma_1:

(Start: 29 @1 has 8 MA's), (48, 85), (53, 112), (57, 136), (61, 175), (95, 349), (118, 472), (144, 553), (153, 592), (154, 595), (155, 601),

Gene: Losacky_48 Start: 29501, Stop: 30034, Start Num: 37

Candidate Starts for Losacky_48:

(3, 29048), (13, 29321), (18, 29360), (Start: 37 @29501 has 11 MA's), (44, 29525), (53, 29603), (57, 29627), (58, 29630), (61, 29666), (66, 29690), (78, 29729), (85, 29759), (87, 29768),

Gene: Margaery_97 Start: 55238, Stop: 55930, Start Num: 30

Candidate Starts for Margaery_97:

(19, 55121), (Start: 30 @55238 has 21 MA's), (Start: 34 @55247 has 5 MA's), (49, 55334), (63, 55442), (69, 55460), (70, 55475), (101, 55631), (136, 55796),

Gene: Mariel_49 Start: 29708, Stop: 30241, Start Num: 37

Candidate Starts for Mariel_49:

(9, 29474), (10, 29486), (17, 29564), (Start: 37 @29708 has 11 MA's), (44, 29732), (53, 29810), (57, 29834), (58, 29837), (61, 29873), (66, 29897), (78, 29936), (85, 29966), (87, 29975), (116, 30122),

Gene: Mariokart_1 Start: 1, Stop: 612, Start Num: 29

Candidate Starts for Mariokart_1:

(Start: 29 @1 has 8 MA's), (42, 40), (48, 91), (57, 142), (61, 181), (76, 262), (82, 280), (87, 307), (137, 526), (144, 559), (154, 601),

Gene: Martha_69 Start: 45008, Stop: 45538, Start Num: 22

Candidate Starts for Martha_69:

(Start: 22 @45008 has 22 MA's), (54, 45134), (58, 45152), (72, 45227), (83, 45257), (98, 45332), (101, 45347), (121, 45455),

Gene: Maruru_87 Start: 52831, Stop: 53424, Start Num: 32

Candidate Starts for Maruru_87:

(15, 52684), (27, 52810), (Start: 32 @52831 has 2 MA's), (45, 52873), (52, 52939), (61, 52993), (67, 53023), (135, 53326), (141, 53350),

Gene: Matzah_98 Start: 54900, Stop: 55583, Start Num: 34

Candidate Starts for Matzah_98:

(Start: 34 @54900 has 5 MA's), (49, 54987), (63, 55095), (69, 55113), (70, 55128), (75, 55158), (77, 55164), (89, 55218), (93, 55254), (101, 55284), (106, 55335), (107, 55344), (119, 55401), (136, 55449),

Gene: Megan_1 Start: 1, Stop: 666, Start Num: 36

Candidate Starts for Megan_1:

(Start: 36 @1 has 2 MA's), (52, 97), (60, 154), (63, 190), (68, 205), (70, 223), (71, 229), (73, 244), (75, 253), (79, 265), (104, 403), (126, 517), (131, 529), (158, 637),

Gene: MellowYellow_12 Start: 4153, Stop: 4734, Start Num: 30

Candidate Starts for MellowYellow_12:

(Start: 30 @4153 has 21 MA's), (38, 4180), (77, 4381), (78, 4384), (80, 4390), (92, 4459), (102, 4498), (111, 4573), (151, 4723),

Gene: MementoMori_97 Start: 54789, Stop: 55472, Start Num: 34

Candidate Starts for MementoMori_97:

(Start: 34 @54789 has 5 MA's), (49, 54876), (63, 54984), (69, 55002), (70, 55017), (75, 55047), (77, 55053), (89, 55107), (93, 55143), (101, 55173), (119, 55290), (136, 55338),

Gene: MenE_48 Start: 29392, Stop: 29925, Start Num: 37

Candidate Starts for MenE_48:

(9, 29158), (10, 29170), (17, 29248), (Start: 37 @29392 has 11 MA's), (44, 29416), (53, 29494), (57, 29518), (58, 29521), (61, 29557), (66, 29581), (78, 29620), (85, 29650), (87, 29659),

Gene: Mufasa8_91 Start: 53065, Stop: 53769, Start Num: 34

Candidate Starts for Mufasa8_91:

(Start: 26 @53020 has 1 MA's), (Start: 34 @53065 has 5 MA's), (55, 53197), (56, 53200), (57, 53209), (73, 53332), (81, 53359), (94, 53440), (108, 53530), (110, 53536), (136, 53635),

Gene: Music_80 Start: 47968, Stop: 48591, Start Num: 26

Candidate Starts for Music_80:

(5, 47836), (7, 47872), (14, 47956), (Start: 26 @47968 has 1 MA's), (58, 48151), (70, 48217), (86, 48271), (89, 48280), (122, 48445), (139, 48493), (140, 48502), (152, 48556), (156, 48574), (157, 48586),

Gene: NCRodriguez_48 Start: 29462, Stop: 29995, Start Num: 37

Candidate Starts for NCRodriguez_48:

(Start: 37 @29462 has 11 MA's), (44, 29486), (53, 29564), (57, 29588), (58, 29591), (61, 29627), (66, 29651), (78, 29690), (85, 29720), (87, 29729), (116, 29876),

Gene: NHagos_1 Start: 1, Stop: 633, Start Num: 28

Candidate Starts for NHagos_1:

(Start: 28 @1 has 1 MA's), (Start: 29 @10 has 8 MA's), (48, 103), (49, 109), (57, 154), (61, 193), (66, 217), (82, 292), (105, 424), (112, 463), (137, 547), (144, 580), (153, 619), (154, 622), (155, 628),

Gene: NathanVaag_65 Start: 44298, Stop: 44876, Start Num: 22

Candidate Starts for NathanVaag_65:

(Start: 22 @44298 has 22 MA's), (25, 44313), (Start: 32 @44361 has 2 MA's), (58, 44502), (70, 44571), (113, 44763), (125, 44814), (143, 44865),

Gene: Nicole72_1 Start: 1, Stop: 666, Start Num: 36

Candidate Starts for Nicole72_1:

(Start: 36 @1 has 2 MA's), (52, 97), (63, 190), (70, 223), (71, 229), (73, 244), (75, 253), (77, 259), (126, 517), (158, 637),

Gene: Nikan_12 Start: 4634, Stop: 5215, Start Num: 30

Candidate Starts for Nikan_12:

(Start: 28 @4622 has 1 MA's), (Start: 30 @4634 has 21 MA's), (Start: 34 @4643 has 5 MA's), (Start: 37 @4652 has 11 MA's), (77, 4862), (78, 4865), (80, 4871), (92, 4940), (102, 4979), (130, 5126), (131, 5129), (146, 5183), (149, 5195), (151, 5204),

Gene: Nostromo_66 Start: 42650, Stop: 43228, Start Num: 21

Candidate Starts for Nostromo_66:

(Start: 21 @42650 has 2 MA's), (78, 42941), (131, 43172),

Gene: NyleyClemson_11 Start: 4095, Stop: 4676, Start Num: 30

Candidate Starts for NyleyClemson_11:

(Start: 30 @4095 has 21 MA's), (38, 4122), (77, 4323), (78, 4326), (80, 4332), (92, 4401), (102, 4440), (111, 4515), (151, 4665),

Gene: Odyssey395_16 Start: 4894, Stop: 5475, Start Num: 30

Candidate Starts for Odyssey395_16:

(Start: 30 @4894 has 21 MA's), (38, 4921), (77, 5122), (78, 5125), (80, 5131), (92, 5200), (102, 5239), (111, 5314), (151, 5464),

Gene: Ollypop_13 Start: 4602, Stop: 5183, Start Num: 30

Candidate Starts for Ollypop_13:

(Start: 30 @4602 has 21 MA's), (77, 4830), (78, 4833), (80, 4839), (92, 4908), (102, 4947), (111, 5022), (129, 5091), (149, 5163), (151, 5172),

Gene: PhillyJawn_47 Start: 29132, Stop: 29665, Start Num: 37

Candidate Starts for PhillyJawn_47:

(Start: 37 @29132 has 11 MA's), (44, 29156), (53, 29234), (57, 29258), (58, 29261), (61, 29297), (66, 29321), (78, 29360), (85, 29390), (87, 29399), (116, 29546),

Gene: Phingu_49 Start: 29357, Stop: 29890, Start Num: 37

Candidate Starts for Phingu_49:

(Start: 37 @29357 has 11 MA's), (44, 29381), (53, 29459), (57, 29483), (58, 29486), (61, 29522), (66, 29546), (78, 29585), (85, 29615), (87, 29624), (116, 29771),

Gene: Phonegingi_46 Start: 29171, Stop: 29704, Start Num: 37

Candidate Starts for Phonegingi_46:

(Start: 37 @29171 has 11 MA's), (44, 29195), (53, 29273), (57, 29297), (58, 29300), (61, 29336), (66, 29360), (78, 29399), (85, 29429), (87, 29438), (116, 29585), (148, 29693),

Gene: PhuzzTulsa_12 Start: 4684, Stop: 5265, Start Num: 30

Candidate Starts for PhuzzTulsa_12:

(Start: 30 @4684 has 21 MA's), (38, 4711), (77, 4912), (78, 4915), (80, 4921), (92, 4990), (102, 5029), (111, 5104), (151, 5254),

Gene: Piccoletto_66 Start: 44460, Stop: 45038, Start Num: 22

Candidate Starts for Piccoletto_66:

(Start: 22 @44460 has 22 MA's), (25, 44475), (Start: 32 @44523 has 2 MA's), (58, 44664), (70, 44733), (125, 44976), (143, 45027),

Gene: Pickles13_45 Start: 29439, Stop: 29972, Start Num: 37

Candidate Starts for Pickles13_45:

(9, 29202), (16, 29286), (Start: 37 @29439 has 11 MA's), (44, 29463), (53, 29541), (57, 29565), (58, 29568), (61, 29604), (66, 29628), (78, 29667), (85, 29697), (116, 29853),

Gene: Pippa_70 Start: 45043, Stop: 45573, Start Num: 22

Candidate Starts for Pippa_70:

(Start: 22 @45043 has 22 MA's), (54, 45169), (58, 45187), (72, 45262), (83, 45292), (98, 45367), (101, 45382), (121, 45490), (128, 45511),

Gene: Pointis_14 Start: 4895, Stop: 5476, Start Num: 30

Candidate Starts for Pointis_14:

(Start: 30 @4895 has 21 MA's), (38, 4922), (77, 5123), (78, 5126), (80, 5132), (92, 5201), (102, 5240), (111, 5315), (151, 5465),

Gene: Popstraw_13 Start: 4684, Stop: 5265, Start Num: 30

Candidate Starts for Popstraw_13:

(Start: 30 @4684 has 21 MA's), (38, 4711), (77, 4912), (78, 4915), (80, 4921), (92, 4990), (102, 5029), (111, 5104), (151, 5254),

Gene: Pureglobe5_16 Start: 4908, Stop: 5489, Start Num: 30

Candidate Starts for Pureglobe5_16:

(Start: 30 @4908 has 21 MA's), (38, 4935), (77, 5136), (78, 5139), (80, 5145), (92, 5214), (102, 5253), (111, 5328), (151, 5478),

Gene: RIPWilbur_12 Start: 4548, Stop: 5129, Start Num: 30

Candidate Starts for RIPWilbur_12:

(Start: 30 @4548 has 21 MA's), (38, 4575), (77, 4776), (78, 4779), (80, 4785), (92, 4854), (102, 4893), (111, 4968), (151, 5118),

Gene: Ranunculus_10 Start: 4388, Stop: 4969, Start Num: 30

Candidate Starts for Ranunculus_10:

(12, 4211), (Start: 30 @4388 has 21 MA's), (50, 4490), (77, 4616), (78, 4619), (102, 4733), (129, 4877), (130, 4880), (131, 4883), (150, 4955),

Gene: RazzB_11 Start: 3923, Stop: 4504, Start Num: 30

Candidate Starts for RazzB_11:

(Start: 30 @3923 has 21 MA's), (38, 3950), (77, 4151), (78, 4154), (80, 4160), (92, 4229), (102, 4268), (111, 4343), (151, 4493),

Gene: Ren19_10 Start: 4634, Stop: 5215, Start Num: 30

Candidate Starts for Ren19_10:

(Start: 28 @4622 has 1 MA's), (Start: 30 @4634 has 21 MA's), (Start: 34 @4643 has 5 MA's), (Start: 37 @4652 has 11 MA's), (77, 4862), (78, 4865), (80, 4871), (92, 4940), (102, 4979), (130, 5126), (131, 5129), (146, 5183), (149, 5195), (151, 5204),

Gene: Rizwana_10 Start: 4484, Stop: 5074, Start Num: 30

Candidate Starts for Rizwana_10:

(Start: 30 @4484 has 21 MA's), (47, 4541), (51, 4589), (62, 4655), (83, 4739), (91, 4790), (92, 4793), (103, 4850), (113, 4913), (115, 4922), (123, 4964), (130, 4982), (149, 5054), (151, 5063),

Gene: RomansRevenge_8 Start: 3035, Stop: 3610, Start Num: 30

Candidate Starts for RomansRevenge_8:

(Start: 30 @3035 has 21 MA's), (41, 3071), (43, 3074), (47, 3089), (58, 3179), (71, 3254), (79, 3266), (80, 3269), (89, 3308), (96, 3353), (99, 3362), (112, 3443), (129, 3512), (142, 3554), (144, 3563), (149, 3590),

Gene: ScoobySnack_43 Start: 28932, Stop: 29465, Start Num: 37

Candidate Starts for ScoobySnack_43:

(Start: 37 @28932 has 11 MA's), (44, 28956), (53, 29034), (57, 29058), (58, 29061), (61, 29097), (66, 29121), (78, 29160), (85, 29190), (87, 29199), (91, 29232), (116, 29346),

Gene: Shade_69 Start: 44814, Stop: 45389, Start Num: 22

Candidate Starts for Shade_69:

(Start: 22 @44814 has 22 MA's), (54, 44985), (58, 45003), (72, 45078), (83, 45108), (98, 45183), (101, 45198), (121, 45306), (128, 45327),

Gene: Shatter_1 Start: 1, Stop: 606, Start Num: 29

Candidate Starts for Shatter_1:

(Start: 29 @1 has 8 MA's), (48, 85), (53, 112), (57, 136), (61, 175), (95, 349), (118, 472), (144, 553), (153, 592), (154, 595), (155, 601),

Gene: Sicarius2_71 Start: 43199, Stop: 43729, Start Num: 31

Candidate Starts for Sicarius2_71:

(Start: 31 @43199 has 2 MA's), (41, 43235), (45, 43244), (58, 43343), (72, 43421), (87, 43469), (109, 43592), (145, 43724),

Gene: SilentRX_10 Start: 3301, Stop: 3894, Start Num: 30

Candidate Starts for SilentRX_10:

(Start: 30 @3301 has 21 MA's), (59, 3454), (77, 3529), (85, 3565), (87, 3574), (91, 3607), (92, 3610), (107, 3706), (108, 3712), (114, 3736), (120, 3772), (149, 3874), (150, 3880),

Gene: Sisko_1 Start: 1, Stop: 600, Start Num: 29

Candidate Starts for Sisko_1:

(Start: 29 @1 has 8 MA's), (42, 28), (48, 79), (55, 118), (87, 295), (153, 586), (154, 589),

Gene: Sonali_86 Start: 53450, Stop: 54043, Start Num: 32

Candidate Starts for Sonali_86:

(1, 52859), (2, 52970), (15, 53303), (27, 53429), (Start: 32 @53450 has 2 MA's), (52, 53558), (67, 53642), (135, 53945), (141, 53969),

Gene: Sonny_69 Start: 44737, Stop: 45312, Start Num: 22

Candidate Starts for Sonny_69:

(Start: 22 @44737 has 22 MA's), (54, 44908), (58, 44926), (72, 45001), (83, 45031), (98, 45106), (101, 45121), (121, 45229), (128, 45250),

Gene: StevieBAY_70 Start: 45067, Stop: 45597, Start Num: 22

Candidate Starts for StevieBAY_70:

(Start: 22 @45067 has 22 MA's), (54, 45193), (58, 45211), (72, 45286), (97, 45388), (101, 45406),

Gene: Sunshine23_89 Start: 53186, Stop: 53779, Start Num: 32

Candidate Starts for Sunshine23_89:

(15, 53039), (27, 53165), (Start: 32 @53186 has 2 MA's), (45, 53228), (52, 53294), (61, 53348), (67, 53378), (77, 53408), (135, 53681), (141, 53705),

Gene: TaeYoung_70 Start: 44980, Stop: 45510, Start Num: 22

Candidate Starts for TaeYoung_70:

(Start: 22 @44980 has 22 MA's), (54, 45106), (58, 45124), (72, 45199), (83, 45229), (98, 45304), (101, 45319), (121, 45427), (128, 45448),

Gene: Tank_11 Start: 4502, Stop: 5092, Start Num: 30

Candidate Starts for Tank_11:

(Start: 30 @4502 has 21 MA's), (62, 4673), (77, 4730), (83, 4757), (88, 4778), (92, 4811), (99, 4835), (104, 4871), (123, 4982), (125, 4988), (130, 5000), (150, 5078), (151, 5081),

Gene: Timinator_70 Start: 44887, Stop: 45417, Start Num: 22

Candidate Starts for Timinator_70:

(Start: 22 @44887 has 22 MA's), (54, 45013), (58, 45031), (97, 45208), (101, 45226),

Gene: TurkishDelight_122 Start: 89500, Stop: 90093, Start Num: 35

Candidate Starts for TurkishDelight_122:

(Start: 35 @89500 has 1 MA's), (Start: 39 @89518 has 1 MA's), (48, 89584), (65, 89689),

Gene: Violeta_48 Start: 29234, Stop: 29767, Start Num: 37

Candidate Starts for Violeta_48:

(17, 29090), (Start: 37 @29234 has 11 MA's), (44, 29258), (53, 29336), (57, 29360), (58, 29363), (61, 29399), (66, 29423), (78, 29462), (85, 29492), (87, 29501), (116, 29648),

Gene: Vitus_80 Start: 46317, Stop: 46829, Start Num: 30

Candidate Starts for Vitus_80:

(5, 46197), (7, 46233), (8, 46245), (Start: 30 @46317 has 21 MA's), (58, 46458), (66, 46503), (86, 46578), (127, 46764),

Gene: Warren_46 Start: 29178, Stop: 29711, Start Num: 37

Candidate Starts for Warren_46:

(Start: 37 @29178 has 11 MA's), (44, 29202), (53, 29280), (57, 29304), (58, 29307), (62, 29346), (66, 29367), (78, 29406), (85, 29436), (87, 29445), (116, 29592),

Gene: Wilde_11 Start: 4430, Stop: 5020, Start Num: 30

Candidate Starts for Wilde_11:

(Start: 30 @4430 has 21 MA's), (62, 4601), (77, 4658), (83, 4685), (88, 4706), (92, 4739), (99, 4763), (104, 4799), (123, 4910), (125, 4916), (130, 4928), (150, 5006), (151, 5009),

Gene: Winchester007_62 Start: 35247, Stop: 35780, Start Num: 37

Candidate Starts for Winchester007_62:

(Start: 37 @35247 has 11 MA's), (44, 35271), (53, 35349), (57, 35373), (58, 35376), (61, 35412), (66, 35436), (78, 35475), (85, 35505), (87, 35514), (116, 35661),

Gene: Wrackline_72 Start: 37846, Stop: 38481, Start Num: 39

Candidate Starts for Wrackline_72:

(33, 37825), (Start: 39 @37846 has 1 MA's), (46, 37867), (48, 37912), (58, 37966), (61, 38002), (64, 38020), (74, 38071), (84, 38104), (90, 38149), (91, 38152), (95, 38164), (102, 38191), (105, 38221), (106, 38230), (108, 38245), (114, 38263), (124, 38308), (132, 38329), (133, 38332), (138, 38347), (147, 38389),

Gene: Wyborn_70 Start: 43934, Stop: 44464, Start Num: 31

Candidate Starts for Wyborn_70:

(Start: 31 @43934 has 2 MA's), (41, 43970), (45, 43979), (58, 44078), (72, 44156), (87, 44204), (109, 44327), (145, 44459),

Gene: Yago84_1 Start: 1, Stop: 600, Start Num: 29

Candidate Starts for Yago84_1:

(Start: 29 @1 has 8 MA's), (42, 28), (48, 79), (55, 118), (87, 295), (117, 463), (153, 586), (154, 589),

Gene: Zartrosa_71 Start: 45067, Stop: 45642, Start Num: 22

Candidate Starts for Zartrosa_71:

(Start: 22 @45067 has 22 MA's), (54, 45238), (58, 45256), (72, 45331), (83, 45361), (98, 45436), (101, 45451), (121, 45559), (128, 45580),