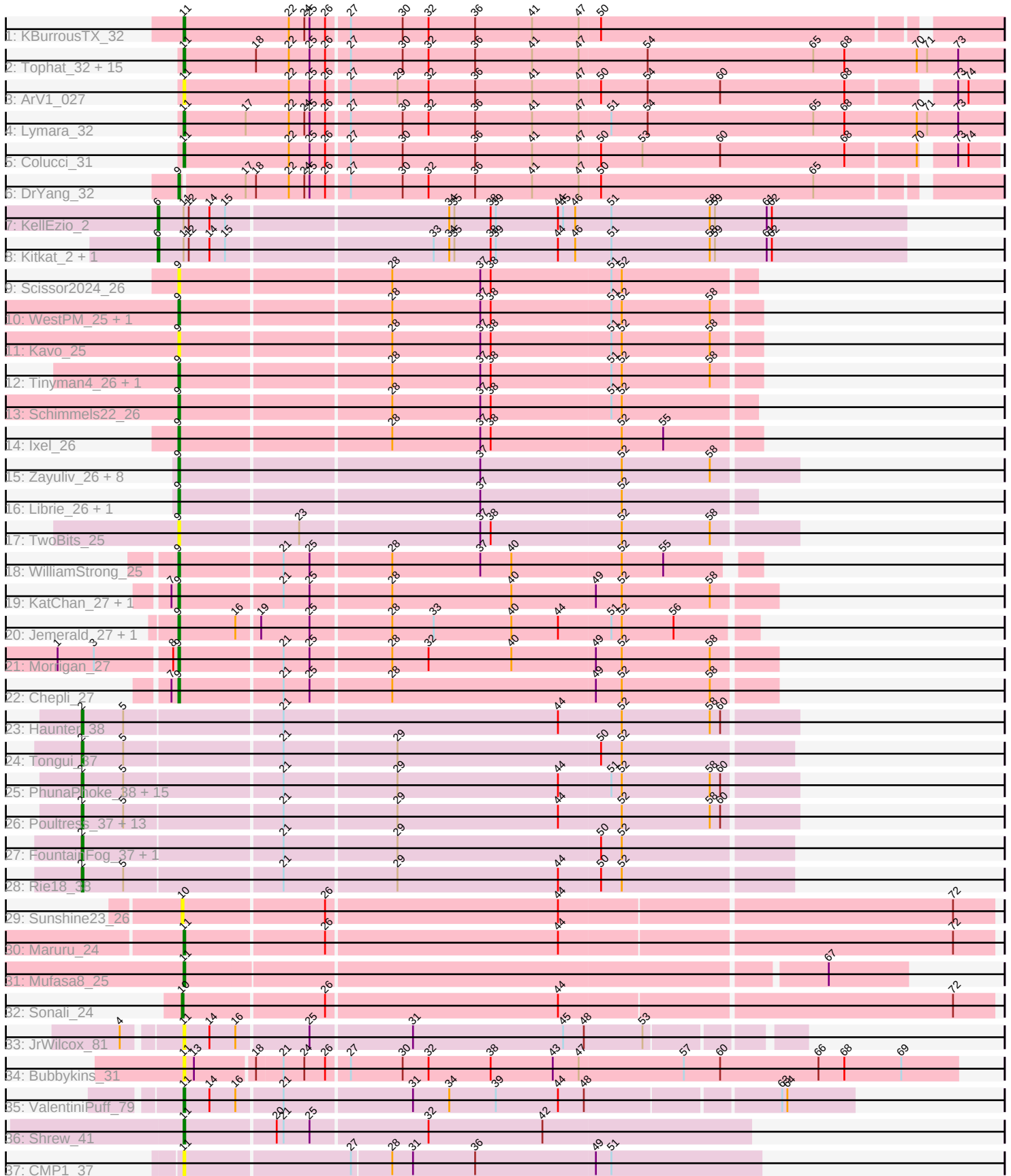


Pham 280301



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 280301 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280301 has 95 members, 16 are drafts.

Phages represented in each track:

- Track 1 : KBurroustX_32
- Track 2 : Tophat_32, Kabreeze_32, Chipper1996_320, Chubster_32, RosiePosie_32, EdgarPoe_32, Mordred_32, Conboy_32, JaNo_32, Linus_32, HumptyDumpty_32, Chocolat_32, Scavito_32, PrincessTrina_32, JayCookie_32, MoyaNatalis_32
- Track 3 : ArV1_027
- Track 4 : Lymara_32
- Track 5 : Colucci_31
- Track 6 : DrYang_32
- Track 7 : Kellezio_2
- Track 8 : Kitkat_2, BeatusComedenti_2
- Track 9 : Scissor2024_26
- Track 10 : WestPM_25, Penta_25
- Track 11 : Kavo_25
- Track 12 : Tinyman4_26, HerculesXL_26
- Track 13 : Schimmels22_26
- Track 14 : Ixel_26
- Track 15 : Zayuliv_26, Wardwill_28, LilTerminator_26, Zepp_27, QuadZero_26, Fulton_26, GreenIvy_26, BaronJohn_27, Hasitha_26
- Track 16 : Librie_26, CaptainRex_26
- Track 17 : TwoBits_25
- Track 18 : WilliamStrong_25
- Track 19 : KatChan_27, Luna18_27
- Track 20 : Jemerald_27, Juicer_27
- Track 21 : Morigan_27
- Track 22 : Chepli_27
- Track 23 : Haunter_38
- Track 24 : Tongui_37
- Track 25 : PhunaPhoke_38, Pharpay_38, Neptune_38, Snakehole_38, CoolCookie_38, Anakin_38, OverHedge_38, Rachella_38, AnnaSerena_38, Potty_38, Tedro_38, Artiphact_38, Cybele_38, NarutoRun_38, Krampus_38, Gilda_38
- Track 26 : Poultriss_37, DannyDe_37, Kate_38, Hiddenleaf_37, Crestdrop_37, MortySmith_36, SilentWarrior_37, OhDear_38, JingleBells_37, FreddieHg_37, Aesir_37, Annapurna_37, JDawG_37, Chivey_37
- Track 27 : FountainFog_37, Karate_37
- Track 28 : Rie18_38

- Track 29 : Sunshine23_26
- Track 30 : Maruru_24
- Track 31 : Mufasa8_25
- Track 32 : Sonali_24
- Track 33 : JrWilcox_81
- Track 34 : Bubbykins_31
- Track 35 : ValentiniPuff_79
- Track 36 : Shrew_41
- Track 37 : CMP1_37

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

The start number called the most often in the published annotations is 2, it was called in 31 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aesir_37, Anakin_38, AnnaSerena_38, Annapurna_37, Artiphact_38, Chivey_37, CoolCookie_38, Crestdrop_37, Cybele_38, DannyDe_37, FountainFog_37, FreddieHg_37, Gilda_38, Haunter_38, Hiddenleaf_37, JDawG_37, JingleBells_37, Karate_37, Kate_38, Krampus_38, MortySmith_36, NarutoRun_38, Neptune_38, OhDear_38, OverHedge_38, Pharpay_38, PhunaPhoke_38, Potty_38, Poultruss_37, Rachella_38, Rie18_38, SilentWarrior_37, Snakehole_38, Tedro_38, Tongui_37,

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

-

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

- ArV1_027, BaronJohn_27, BeatusComedenti_2, Bubbykins_31, CMP1_37, CaptainRex_26, Chepli_27, Chipper1996_320, Chocolat_32, Chubster_32, Colucci_31, Conboy_32, DrYang_32, EdgarPoe_32, Fulton_26, GreenIvy_26, Hasitha_26, HerculesXL_26, HumptyDumpty_32, Ixel_26, JaNo_32, JayCookie_32, Jemerald_27, JrWilcox_81, Juicer_27, KBurrousTX_32, Kabreeze_32, KatChan_27, Kavo_25, KellEzio_2, Kitkat_2, Librie_26, LilTerminator_26, Linus_32, Luna18_27, Lymara_32, Maruru_24, Mordred_32, Morrigan_27, MoyaNatalis_32, Mufasa8_25, Penta_25, PrincessTrina_32, QuadZero_26, RosiePosie_32, Scavito_32, Schimmels22_26, Scissor2024_26, Shrew_41, Sonali_24, Sunshine23_26, Tinyman4_26, Tophat_32, TwoBits_25, ValentiniPuff_79, Wardwill_28, WestPM_25, WilliamStrong_25, Zayuliv_26, Zepp_27,

Summary by start number:

Start 2:

- Found in 35 of 95 (36.8%) of genes in pham
- Manual Annotations of this start: 31 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir_37 (EF), Anakin_38 (EF), AnnaSerena_38 (EF), Annapurna_37 (EF), Artiphact_38 (EF), Chivey_37 (EF), CoolCookie_38 (EF), Crestdrop_37 (EF), Cybele_38 (EF), DannyDe_37 (EF), FountainFog_37 (EF), FreddieHg_37 (EF), Gilda_38 (EF), Haunter_38 (EF), Hiddenleaf_37 (EF), JDawG_37 (EF), JingleBells_37 (EF), Karate_37 (EF), Kate_38

(EF), Krampus_38 (EF), MortySmith_36 (EF), NarutoRun_38 (EF), Neptune_38 (EF), OhDear_38 (EF), OverHedge_38 (EF), Pharpay_38 (EF), PhunaPhoke_38 (EF), Potty_38 (EF), Poultruss_37 (EF), Rachella_38 (EF), Rie18_38 (EF), SilentWarrior_37 (EF), Snakehole_38 (EF), Tedro_38 (EF), Tongui_37 (EF),

Start 6:

- Found in 3 of 95 (3.2%) of genes in pham
- Manual Annotations of this start: 3 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BeatusComedenti_2 (AT), Kellezio_2 (AT), Kitkat_2 (AT),

Start 9:

- Found in 28 of 95 (29.5%) of genes in pham
- Manual Annotations of this start: 22 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaronJohn_27 (EA5), CaptainRex_26 (EA5), Chepli_27 (EA6), DrYang_32 (AR), Fulton_26 (EA5), GreenIvy_26 (EA5), Hasitha_26 (EA5), HerculesXL_26 (EA11), Ixel_26 (EA11), Jemerald_27 (EA6), Juicer_27 (EA6), KatChan_27 (EA6), Kavo_25 (EA11), Librie_26 (EA5), LilTerminator_26 (EA5), Luna18_27 (EA6), Morigan_27 (EA6), Penta_25 (EA11), QuadZero_26 (EA5), Schimmels22_26 (EA11), Scissor2024_26 (EA11), Tinyman4_26 (EA11), TwoBits_25 (EA5), Wardwill_28 (EA5), WestPM_25 (EA11), WilliamStrong_25 (EA6), Zayuliv_26 (EA5), Zepp_27 (EA5),

Start 10:

- Found in 2 of 95 (2.1%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sonali_24 (FG), Sunshine23_26 (FG),

Start 11:

- Found in 30 of 95 (31.6%) of genes in pham
- Manual Annotations of this start: 22 of 79
- Called 90.0% of time when present
- Phage (with cluster) where this start called: ArV1_027 (AR), Bubbykins_31 (UNK), CMP1_37 (singleton), Chipper1996_320 (AR), Chocolat_32 (AR), Chubster_32 (AR), Colucci_31 (AR), Conboy_32 (AR), EdgarPoe_32 (AR), HumptyDumpty_32 (AR), JaNo_32 (AR), JayCookie_32 (AR), JrWilcox_81 (GL), KBurrousTX_32 (AR), Kabreeze_32 (AR), Linus_32 (AR), Lymara_32 (AR), Maruru_24 (FG), Mordred_32 (AR), MoyaNatalis_32 (AR), Mufasa8_25 (FG), PrincessTrina_32 (AR), RosiePosie_32 (AR), Scavito_32 (AR), Shrew_41 (singleton), Tophat_32 (AR), ValentiniPuff_79 (singleton),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, UNK, EA11, EF, AR, AT, FG, GL, EA5, EA6,

Info for manual annotations of cluster AR:

- Start number 9 was manually annotated 1 time for cluster AR.
- Start number 11 was manually annotated 18 times for cluster AR.

Info for manual annotations of cluster AT:

- Start number 6 was manually annotated 3 times for cluster AT.

Info for manual annotations of cluster EA11:

- Start number 9 was manually annotated 5 times for cluster EA11.

Info for manual annotations of cluster EA5:

- Start number 9 was manually annotated 9 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 9 was manually annotated 7 times for cluster EA6.

Info for manual annotations of cluster EF:

- Start number 2 was manually annotated 31 times for cluster EF.

Info for manual annotations of cluster FG:

- Start number 10 was manually annotated 1 time for cluster FG.
- Start number 11 was manually annotated 2 times for cluster FG.

Gene Information:

Gene: Aesir_37 Start: 24476, Stop: 24877, Start Num: 2

Candidate Starts for Aesir_37:

(Start: 2 @24476 has 31 MA's), (5, 24500), (21, 24587), (29, 24650), (44, 24743), (52, 24779), (58, 24830), (60, 24836),

Gene: Anakin_38 Start: 24796, Stop: 25197, Start Num: 2

Candidate Starts for Anakin_38:

(Start: 2 @24796 has 31 MA's), (5, 24820), (21, 24907), (29, 24970), (44, 25063), (51, 25093), (52, 25099), (58, 25150), (60, 25156),

Gene: AnnaSerena_38 Start: 24831, Stop: 25232, Start Num: 2

Candidate Starts for AnnaSerena_38:

(Start: 2 @24831 has 31 MA's), (5, 24855), (21, 24942), (29, 25005), (44, 25098), (51, 25128), (52, 25134), (58, 25185), (60, 25191),

Gene: Annapurna_37 Start: 23938, Stop: 24339, Start Num: 2

Candidate Starts for Annapurna_37:

(Start: 2 @23938 has 31 MA's), (5, 23962), (21, 24049), (29, 24112), (44, 24205), (52, 24241), (58, 24292), (60, 24298),

Gene: ArV1_027 Start: 26868, Stop: 27326, Start Num: 11

Candidate Starts for ArV1_027:

(Start: 11 @26868 has 22 MA's), (22, 26928), (25, 26940), (26, 26949), (27, 26961), (29, 26988), (32, 27006), (36, 27033), (41, 27066), (47, 27093), (50, 27105), (54, 27132), (60, 27174), (68, 27246), (73, 27300), (74, 27306),

Gene: Artiphact_38 Start: 24820, Stop: 25221, Start Num: 2

Candidate Starts for Artiphact_38:

(Start: 2 @24820 has 31 MA's), (5, 24844), (21, 24931), (29, 24994), (44, 25087), (51, 25117), (52, 25123), (58, 25174), (60, 25180),

Gene: BaronJohn_27 Start: 19174, Stop: 19521, Start Num: 9

Candidate Starts for BaronJohn_27:

(Start: 9 @19174 has 22 MA's), (37, 19342), (52, 19423), (58, 19474),

Gene: BeatusComedenti_2 Start: 788, Stop: 1213, Start Num: 6

Candidate Starts for BeatusComedenti_2:

(Start: 6 @788 has 3 MA's), (Start: 11 @803 has 22 MA's), (12, 806), (14, 818), (15, 827), (33, 941), (34, 950), (35, 953), (38, 974), (39, 977), (44, 1013), (46, 1022), (51, 1043), (58, 1100), (59, 1103), (61, 1133), (62, 1136),

Gene: Bubbykins_31 Start: 25825, Stop: 26265, Start Num: 11

Candidate Starts for Bubbykins_31:

(Start: 11 @25825 has 22 MA's), (13, 25831), (18, 25864), (21, 25879), (24, 25891), (26, 25903), (27, 25915), (30, 25945), (32, 25960), (38, 25996), (43, 26032), (47, 26047), (57, 26107), (60, 26128), (66, 26185), (68, 26200), (69, 26233),

Gene: CMP1_37 Start: 36378, Stop: 36704, Start Num: 11

Candidate Starts for CMP1_37:

(Start: 11 @36378 has 22 MA's), (27, 36471), (28, 36492), (31, 36504), (36, 36540), (49, 36609), (51, 36618),

Gene: CaptainRex_26 Start: 18608, Stop: 18931, Start Num: 9

Candidate Starts for CaptainRex_26:

(Start: 9 @18608 has 22 MA's), (37, 18776), (52, 18857),

Gene: Chepli_27 Start: 19263, Stop: 19598, Start Num: 9

Candidate Starts for Chepli_27:

(7, 19260), (Start: 9 @19263 has 22 MA's), (21, 19320), (25, 19335), (28, 19380), (49, 19497), (52, 19512), (58, 19563),

Gene: Chipper1996_320 Start: 28217, Stop: 28687, Start Num: 11

Candidate Starts for Chipper1996_320:

(Start: 11 @28217 has 22 MA's), (18, 28259), (22, 28277), (25, 28289), (26, 28298), (27, 28310), (30, 28340), (32, 28355), (36, 28382), (41, 28415), (47, 28442), (54, 28481), (65, 28577), (68, 28595), (70, 28637), (71, 28643), (73, 28661),

Gene: Chivey_37 Start: 23887, Stop: 24288, Start Num: 2

Candidate Starts for Chivey_37:

(Start: 2 @23887 has 31 MA's), (5, 23911), (21, 23998), (29, 24061), (44, 24154), (52, 24190), (58, 24241), (60, 24247),

Gene: Chocolat_32 Start: 28217, Stop: 28687, Start Num: 11

Candidate Starts for Chocolat_32:

(Start: 11 @28217 has 22 MA's), (18, 28259), (22, 28277), (25, 28289), (26, 28298), (27, 28310), (30, 28340), (32, 28355), (36, 28382), (41, 28415), (47, 28442), (54, 28481), (65, 28577), (68, 28595), (70, 28637), (71, 28643), (73, 28661),

Gene: Chubster_32 Start: 27988, Stop: 28458, Start Num: 11

Candidate Starts for Chubster_32:

(Start: 11 @27988 has 22 MA's), (18, 28030), (22, 28048), (25, 28060), (26, 28069), (27, 28081), (30, 28111), (32, 28126), (36, 28153), (41, 28186), (47, 28213), (54, 28252), (65, 28348), (68, 28366), (70, 28408), (71, 28414), (73, 28432),

Gene: Colucci_31 Start: 27686, Stop: 28141, Start Num: 11

Candidate Starts for Colucci_31:

(Start: 11 @27686 has 22 MA's), (22, 27746), (25, 27758), (26, 27767), (27, 27779), (30, 27809), (36, 27851), (41, 27884), (47, 27911), (50, 27923), (53, 27947), (60, 27992), (68, 28064), (70, 28103), (73, 28118), (74, 28124),

Gene: Conboy_32 Start: 28216, Stop: 28686, Start Num: 11

Candidate Starts for Conboy_32:

(Start: 11 @28216 has 22 MA's), (18, 28258), (22, 28276), (25, 28288), (26, 28297), (27, 28309), (30, 28339), (32, 28354), (36, 28381), (41, 28414), (47, 28441), (54, 28480), (65, 28576), (68, 28594), (70, 28636), (71, 28642), (73, 28660),

Gene: CoolCookie_38 Start: 24826, Stop: 25227, Start Num: 2

Candidate Starts for CoolCookie_38:

(Start: 2 @24826 has 31 MA's), (5, 24850), (21, 24937), (29, 25000), (44, 25093), (51, 25123), (52, 25129), (58, 25180), (60, 25186),

Gene: Crestdrop_37 Start: 23798, Stop: 24199, Start Num: 2

Candidate Starts for Crestdrop_37:

(Start: 2 @23798 has 31 MA's), (5, 23822), (21, 23909), (29, 23972), (44, 24065), (52, 24101), (58, 24152), (60, 24158),

Gene: Cybele_38 Start: 24796, Stop: 25197, Start Num: 2

Candidate Starts for Cybele_38:

(Start: 2 @24796 has 31 MA's), (5, 24820), (21, 24907), (29, 24970), (44, 25063), (51, 25093), (52, 25099), (58, 25150), (60, 25156),

Gene: DannyDe_37 Start: 23893, Stop: 24294, Start Num: 2

Candidate Starts for DannyDe_37:

(Start: 2 @23893 has 31 MA's), (5, 23917), (21, 24004), (29, 24067), (44, 24160), (52, 24196), (58, 24247), (60, 24253),

Gene: DrYang_32 Start: 29312, Stop: 29767, Start Num: 9

Candidate Starts for DrYang_32:

(Start: 9 @29312 has 22 MA's), (17, 29348), (18, 29354), (22, 29372), (24, 29381), (25, 29384), (26, 29393), (27, 29405), (30, 29435), (32, 29450), (36, 29477), (41, 29510), (47, 29537), (50, 29549), (65, 29672),

Gene: EdgarPoe_32 Start: 28216, Stop: 28686, Start Num: 11

Candidate Starts for EdgarPoe_32:

(Start: 11 @28216 has 22 MA's), (18, 28258), (22, 28276), (25, 28288), (26, 28297), (27, 28309), (30, 28339), (32, 28354), (36, 28381), (41, 28414), (47, 28441), (54, 28480), (65, 28576), (68, 28594), (70, 28636), (71, 28642), (73, 28660),

Gene: FountainFog_37 Start: 24100, Stop: 24498, Start Num: 2

Candidate Starts for FountainFog_37:

(Start: 2 @24100 has 31 MA's), (21, 24211), (29, 24274), (50, 24391), (52, 24403),

Gene: FreddieHg_37 Start: 23903, Stop: 24304, Start Num: 2

Candidate Starts for FreddieHg_37:

(Start: 2 @23903 has 31 MA's), (5, 23927), (21, 24014), (29, 24077), (44, 24170), (52, 24206), (58, 24257), (60, 24263),

Gene: Fulton_26 Start: 18590, Stop: 18937, Start Num: 9

Candidate Starts for Fulton_26:

(Start: 9 @18590 has 22 MA's), (37, 18758), (52, 18839), (58, 18890),

Gene: Gilda_38 Start: 24820, Stop: 25221, Start Num: 2

Candidate Starts for Gilda_38:

(Start: 2 @24820 has 31 MA's), (5, 24844), (21, 24931), (29, 24994), (44, 25087), (51, 25117), (52, 25123), (58, 25174), (60, 25180),

Gene: Greenlvy_26 Start: 19176, Stop: 19523, Start Num: 9

Candidate Starts for Greenlvy_26:

(Start: 9 @19176 has 22 MA's), (37, 19344), (52, 19425), (58, 19476),

Gene: Hasitha_26 Start: 18602, Stop: 18949, Start Num: 9

Candidate Starts for Hasitha_26:

(Start: 9 @18602 has 22 MA's), (37, 18770), (52, 18851), (58, 18902),

Gene: Haunter_38 Start: 24212, Stop: 24613, Start Num: 2

Candidate Starts for Haunter_38:

(Start: 2 @24212 has 31 MA's), (5, 24236), (21, 24323), (44, 24479), (52, 24515), (58, 24566), (60, 24572),

Gene: HerculesXL_26 Start: 18674, Stop: 19000, Start Num: 9

Candidate Starts for HerculesXL_26:

(Start: 9 @18674 has 22 MA's), (28, 18791), (37, 18842), (38, 18848), (51, 18917), (52, 18923), (58, 18974),

Gene: Hiddenleaf_37 Start: 23887, Stop: 24288, Start Num: 2

Candidate Starts for Hiddenleaf_37:

(Start: 2 @23887 has 31 MA's), (5, 23911), (21, 23998), (29, 24061), (44, 24154), (52, 24190), (58, 24241), (60, 24247),

Gene: HumptyDumpty_32 Start: 28215, Stop: 28685, Start Num: 11

Candidate Starts for HumptyDumpty_32:

(Start: 11 @28215 has 22 MA's), (18, 28257), (22, 28275), (25, 28287), (26, 28296), (27, 28308), (30, 28338), (32, 28353), (36, 28380), (41, 28413), (47, 28440), (54, 28479), (65, 28575), (68, 28593), (70, 28635), (71, 28641), (73, 28659),

Gene: Ixel_26 Start: 18510, Stop: 18836, Start Num: 9

Candidate Starts for Ixel_26:

(Start: 9 @18510 has 22 MA's), (28, 18627), (37, 18678), (38, 18684), (52, 18759), (55, 18783),

Gene: JDawG_37 Start: 24471, Stop: 24872, Start Num: 2

Candidate Starts for JDawG_37:

(Start: 2 @24471 has 31 MA's), (5, 24495), (21, 24582), (29, 24645), (44, 24738), (52, 24774), (58, 24825), (60, 24831),

Gene: JaNo_32 Start: 28215, Stop: 28685, Start Num: 11

Candidate Starts for JaNo_32:

(Start: 11 @28215 has 22 MA's), (18, 28257), (22, 28275), (25, 28287), (26, 28296), (27, 28308), (30, 28338), (32, 28353), (36, 28380), (41, 28413), (47, 28440), (54, 28479), (65, 28575), (68, 28593), (70, 28635), (71, 28641), (73, 28659),

Gene: JayCookie_32 Start: 28218, Stop: 28688, Start Num: 11

Candidate Starts for JayCookie_32:

(Start: 11 @28218 has 22 MA's), (18, 28260), (22, 28278), (25, 28290), (26, 28299), (27, 28311), (30, 28341), (32, 28356), (36, 28383), (41, 28416), (47, 28443), (54, 28482), (65, 28578), (68, 28596), (70, 28638), (71, 28644), (73, 28662),

Gene: Jemerald_27 Start: 20196, Stop: 20519, Start Num: 9

Candidate Starts for Jemerald_27:

(Start: 9 @20196 has 22 MA's), (16, 20229), (19, 20241), (25, 20268), (28, 20313), (33, 20337), (40, 20382), (44, 20409), (51, 20439), (52, 20445), (56, 20475),

Gene: JingleBells_37 Start: 24008, Stop: 24409, Start Num: 2

Candidate Starts for JingleBells_37:

(Start: 2 @24008 has 31 MA's), (5, 24032), (21, 24119), (29, 24182), (44, 24275), (52, 24311), (58, 24362), (60, 24368),

Gene: JrWilcox_81 Start: 46199, Stop: 46537, Start Num: 11

Candidate Starts for JrWilcox_81:

(4, 46169), (Start: 11 @46199 has 22 MA's), (14, 46214), (16, 46229), (25, 46268), (31, 46325), (45, 46412), (48, 46424), (53, 46457),

Gene: Juicer_27 Start: 20196, Stop: 20519, Start Num: 9

Candidate Starts for Juicer_27:

(Start: 9 @20196 has 22 MA's), (16, 20229), (19, 20241), (25, 20268), (28, 20313), (33, 20337), (40, 20382), (44, 20409), (51, 20439), (52, 20445), (56, 20475),

Gene: KBurrousTX_32 Start: 29142, Stop: 29597, Start Num: 11

Candidate Starts for KBurrousTX_32:

(Start: 11 @29142 has 22 MA's), (22, 29202), (24, 29211), (25, 29214), (26, 29223), (27, 29235), (30, 29265), (32, 29280), (36, 29307), (41, 29340), (47, 29367), (50, 29379),

Gene: Kabreeze_32 Start: 28215, Stop: 28685, Start Num: 11

Candidate Starts for Kabreeze_32:

(Start: 11 @28215 has 22 MA's), (18, 28257), (22, 28275), (25, 28287), (26, 28296), (27, 28308), (30, 28338), (32, 28353), (36, 28380), (41, 28413), (47, 28440), (54, 28479), (65, 28575), (68, 28593), (70, 28635), (71, 28641), (73, 28659),

Gene: Karate_37 Start: 24819, Stop: 25217, Start Num: 2

Candidate Starts for Karate_37:

(Start: 2 @24819 has 31 MA's), (21, 24930), (29, 24993), (50, 25110), (52, 25122),

Gene: KatChan_27 Start: 19269, Stop: 19604, Start Num: 9

Candidate Starts for KatChan_27:

(7, 19266), (Start: 9 @19269 has 22 MA's), (21, 19326), (25, 19341), (28, 19386), (40, 19455), (49, 19503), (52, 19518), (58, 19569),

Gene: Kate_38 Start: 24828, Stop: 25229, Start Num: 2

Candidate Starts for Kate_38:

(Start: 2 @24828 has 31 MA's), (5, 24852), (21, 24939), (29, 25002), (44, 25095), (52, 25131), (58, 25182), (60, 25188),

Gene: Kavo_25 Start: 18510, Stop: 18836, Start Num: 9

Candidate Starts for Kavo_25:

(Start: 9 @18510 has 22 MA's), (28, 18627), (37, 18678), (38, 18684), (51, 18753), (52, 18759), (58, 18810),

Gene: KellEzio_2 Start: 788, Stop: 1213, Start Num: 6

Candidate Starts for KellEzio_2:

(Start: 6 @788 has 3 MA's), (Start: 11 @803 has 22 MA's), (12, 806), (14, 818), (15, 827), (34, 950), (35, 953), (38, 974), (39, 977), (44, 1013), (45, 1016), (46, 1022), (51, 1043), (58, 1100), (59, 1103), (61, 1133), (62, 1136),

Gene: Kitkat_2 Start: 788, Stop: 1213, Start Num: 6

Candidate Starts for Kitkat_2:

(Start: 6 @788 has 3 MA's), (Start: 11 @803 has 22 MA's), (12, 806), (14, 818), (15, 827), (33, 941), (34, 950), (35, 953), (38, 974), (39, 977), (44, 1013), (46, 1022), (51, 1043), (58, 1100), (59, 1103), (61, 1133), (62, 1136),

Gene: Krampus_38 Start: 24828, Stop: 25229, Start Num: 2

Candidate Starts for Krampus_38:

(Start: 2 @24828 has 31 MA's), (5, 24852), (21, 24939), (29, 25002), (44, 25095), (51, 25125), (52, 25131), (58, 25182), (60, 25188),

Gene: Librie_26 Start: 18608, Stop: 18931, Start Num: 9

Candidate Starts for Librie_26:

(Start: 9 @18608 has 22 MA's), (37, 18776), (52, 18857),

Gene: LilTerminator_26 Start: 18608, Stop: 18955, Start Num: 9

Candidate Starts for LilTerminator_26:

(Start: 9 @18608 has 22 MA's), (37, 18776), (52, 18857), (58, 18908),

Gene: Linus_32 Start: 28215, Stop: 28685, Start Num: 11

Candidate Starts for Linus_32:

(Start: 11 @28215 has 22 MA's), (18, 28257), (22, 28275), (25, 28287), (26, 28296), (27, 28308), (30, 28338), (32, 28353), (36, 28380), (41, 28413), (47, 28440), (54, 28479), (65, 28575), (68, 28593), (70, 28635), (71, 28641), (73, 28659),

Gene: Luna18_27 Start: 19269, Stop: 19604, Start Num: 9

Candidate Starts for Luna18_27:

(7, 19266), (Start: 9 @19269 has 22 MA's), (21, 19326), (25, 19341), (28, 19386), (40, 19455), (49, 19503), (52, 19518), (58, 19569),

Gene: Lymara_32 Start: 28213, Stop: 28683, Start Num: 11

Candidate Starts for Lymara_32:

(Start: 11 @28213 has 22 MA's), (17, 28249), (22, 28273), (24, 28282), (25, 28285), (26, 28294), (27, 28306), (30, 28336), (32, 28351), (36, 28378), (41, 28411), (47, 28438), (51, 28456), (54, 28477), (65, 28573), (68, 28591), (70, 28633), (71, 28639), (73, 28657),

Gene: Maruru_24 Start: 23469, Stop: 23924, Start Num: 11

Candidate Starts for Maruru_24:

(Start: 11 @23469 has 22 MA's), (26, 23547), (44, 23679), (72, 23901),

Gene: Mordred_32 Start: 28215, Stop: 28685, Start Num: 11

Candidate Starts for Mordred_32:

(Start: 11 @28215 has 22 MA's), (18, 28257), (22, 28275), (25, 28287), (26, 28296), (27, 28308), (30, 28338), (32, 28353), (36, 28380), (41, 28413), (47, 28440), (54, 28479), (65, 28575), (68, 28593), (70, 28635), (71, 28641), (73, 28659),

Gene: Morrigan_27 Start: 20156, Stop: 20491, Start Num: 9

Candidate Starts for Morrigan_27:

(1, 20090), (3, 20111), (8, 20153), (Start: 9 @20156 has 22 MA's), (21, 20213), (25, 20228), (28, 20273), (32, 20294), (40, 20342), (49, 20390), (52, 20405), (58, 20456),

Gene: MortySmith_36 Start: 23859, Stop: 24260, Start Num: 2

Candidate Starts for MortySmith_36:

(Start: 2 @23859 has 31 MA's), (5, 23883), (21, 23970), (29, 24033), (44, 24126), (52, 24162), (58, 24213), (60, 24219),

Gene: MoyaNatalis_32 Start: 28218, Stop: 28688, Start Num: 11

Candidate Starts for MoyaNatalis_32:

(Start: 11 @28218 has 22 MA's), (18, 28260), (22, 28278), (25, 28290), (26, 28299), (27, 28311), (30, 28341), (32, 28356), (36, 28383), (41, 28416), (47, 28443), (54, 28482), (65, 28578), (68, 28596), (70, 28638), (71, 28644), (73, 28662),

Gene: Mufasa8_25 Start: 23961, Stop: 24362, Start Num: 11

Candidate Starts for Mufasa8_25:

(Start: 11 @23961 has 22 MA's), (67, 24318),

Gene: NarutoRun_38 Start: 24796, Stop: 25197, Start Num: 2

Candidate Starts for NarutoRun_38:

(Start: 2 @24796 has 31 MA's), (5, 24820), (21, 24907), (29, 24970), (44, 25063), (51, 25093), (52, 25099), (58, 25150), (60, 25156),

Gene: Neptune_38 Start: 24796, Stop: 25197, Start Num: 2

Candidate Starts for Neptune_38:

(Start: 2 @24796 has 31 MA's), (5, 24820), (21, 24907), (29, 24970), (44, 25063), (51, 25093), (52, 25099), (58, 25150), (60, 25156),

Gene: OhDear_38 Start: 24794, Stop: 25195, Start Num: 2

Candidate Starts for OhDear_38:

(Start: 2 @24794 has 31 MA's), (5, 24818), (21, 24905), (29, 24968), (44, 25061), (52, 25097), (58, 25148), (60, 25154),

Gene: OverHedge_38 Start: 24786, Stop: 25187, Start Num: 2

Candidate Starts for OverHedge_38:

(Start: 2 @24786 has 31 MA's), (5, 24810), (21, 24897), (29, 24960), (44, 25053), (51, 25083), (52, 25089), (58, 25140), (60, 25146),

Gene: Penta_25 Start: 18508, Stop: 18834, Start Num: 9

Candidate Starts for Penta_25:

(Start: 9 @18508 has 22 MA's), (28, 18625), (37, 18676), (38, 18682), (51, 18751), (52, 18757), (58, 18808),

Gene: Pharpay_38 Start: 24841, Stop: 25242, Start Num: 2

Candidate Starts for Pharpay_38:

(Start: 2 @24841 has 31 MA's), (5, 24865), (21, 24952), (29, 25015), (44, 25108), (51, 25138), (52, 25144), (58, 25195), (60, 25201),

Gene: PhunaPhoke_38 Start: 24814, Stop: 25215, Start Num: 2

Candidate Starts for PhunaPhoke_38:

(Start: 2 @24814 has 31 MA's), (5, 24838), (21, 24925), (29, 24988), (44, 25081), (51, 25111), (52, 25117), (58, 25168), (60, 25174),

Gene: Potty_38 Start: 24819, Stop: 25220, Start Num: 2

Candidate Starts for Potty_38:

(Start: 2 @24819 has 31 MA's), (5, 24843), (21, 24930), (29, 24993), (44, 25086), (51, 25116), (52, 25122), (58, 25173), (60, 25179),

Gene: Poultress_37 Start: 25165, Stop: 25566, Start Num: 2

Candidate Starts for Poultress_37:

(Start: 2 @25165 has 31 MA's), (5, 25189), (21, 25276), (29, 25339), (44, 25432), (52, 25468), (58, 25519), (60, 25525),

Gene: PrincessTrina_32 Start: 28218, Stop: 28688, Start Num: 11

Candidate Starts for PrincessTrina_32:

(Start: 11 @28218 has 22 MA's), (18, 28260), (22, 28278), (25, 28290), (26, 28299), (27, 28311), (30, 28341), (32, 28356), (36, 28383), (41, 28416), (47, 28443), (54, 28482), (65, 28578), (68, 28596), (70, 28638), (71, 28644), (73, 28662),

Gene: QuadZero_26 Start: 18612, Stop: 18959, Start Num: 9

Candidate Starts for QuadZero_26:

(Start: 9 @18612 has 22 MA's), (37, 18780), (52, 18861), (58, 18912),

Gene: Rachella_38 Start: 24822, Stop: 25223, Start Num: 2

Candidate Starts for Rachella_38:

(Start: 2 @24822 has 31 MA's), (5, 24846), (21, 24933), (29, 24996), (44, 25089), (51, 25119), (52, 25125), (58, 25176), (60, 25182),

Gene: Rie18_38 Start: 24311, Stop: 24709, Start Num: 2

Candidate Starts for Rie18_38:

(Start: 2 @24311 has 31 MA's), (5, 24335), (21, 24422), (29, 24485), (44, 24578), (50, 24602), (52, 24614),

Gene: RosiePosie_32 Start: 28218, Stop: 28688, Start Num: 11

Candidate Starts for RosiePosie_32:

(Start: 11 @28218 has 22 MA's), (18, 28260), (22, 28278), (25, 28290), (26, 28299), (27, 28311), (30, 28341), (32, 28356), (36, 28383), (41, 28416), (47, 28443), (54, 28482), (65, 28578), (68, 28596), (70, 28638), (71, 28644), (73, 28662),

Gene: Scavito_32 Start: 28215, Stop: 28685, Start Num: 11

Candidate Starts for Scavito_32:

(Start: 11 @28215 has 22 MA's), (18, 28257), (22, 28275), (25, 28287), (26, 28296), (27, 28308), (30, 28338), (32, 28353), (36, 28380), (41, 28413), (47, 28440), (54, 28479), (65, 28575), (68, 28593), (70, 28635), (71, 28641), (73, 28659),

Gene: Schimmels22_26 Start: 19037, Stop: 19360, Start Num: 9

Candidate Starts for Schimmels22_26:

(Start: 9 @19037 has 22 MA's), (28, 19154), (37, 19205), (38, 19211), (51, 19280), (52, 19286),

Gene: Scissor2024_26 Start: 18673, Stop: 18996, Start Num: 9

Candidate Starts for Scissor2024_26:

(Start: 9 @18673 has 22 MA's), (28, 18790), (37, 18841), (38, 18847), (51, 18916), (52, 18922),

Gene: Shrew_41 Start: 15755, Stop: 16075, Start Num: 11

Candidate Starts for Shrew_41:

(Start: 11 @15755 has 22 MA's), (20, 15806), (21, 15809), (25, 15824), (32, 15890), (42, 15956),

Gene: SilentWarrior_37 Start: 23900, Stop: 24301, Start Num: 2

Candidate Starts for SilentWarrior_37:

(Start: 2 @23900 has 31 MA's), (5, 23924), (21, 24011), (29, 24074), (44, 24167), (52, 24203), (58, 24254), (60, 24260),

Gene: Snakehole_38 Start: 23999, Stop: 24400, Start Num: 2

Candidate Starts for Snakehole_38:

(Start: 2 @23999 has 31 MA's), (5, 24023), (21, 24110), (29, 24173), (44, 24266), (51, 24296), (52, 24302), (58, 24353), (60, 24359),

Gene: Sonali_24 Start: 24016, Stop: 24471, Start Num: 10

Candidate Starts for Sonali_24:

(Start: 10 @24016 has 1 MA's), (26, 24094), (44, 24226), (72, 24448),

Gene: Sunshine23_26 Start: 24033, Stop: 24488, Start Num: 10

Candidate Starts for Sunshine23_26:

(Start: 10 @24033 has 1 MA's), (26, 24111), (44, 24243), (72, 24465),

Gene: Tedro_38 Start: 24292, Stop: 24693, Start Num: 2

Candidate Starts for Tedro_38:

(Start: 2 @24292 has 31 MA's), (5, 24316), (21, 24403), (29, 24466), (44, 24559), (51, 24589), (52, 24595), (58, 24646), (60, 24652),

Gene: Tinyman4_26 Start: 18674, Stop: 19000, Start Num: 9

Candidate Starts for Tinyman4_26:

(Start: 9 @18674 has 22 MA's), (28, 18791), (37, 18842), (38, 18848), (51, 18917), (52, 18923), (58, 18974),

Gene: Tongui_37 Start: 24250, Stop: 24648, Start Num: 2

Candidate Starts for Tongui_37:

(Start: 2 @24250 has 31 MA's), (5, 24274), (21, 24361), (29, 24424), (50, 24541), (52, 24553),

Gene: Tophat_32 Start: 28217, Stop: 28687, Start Num: 11

Candidate Starts for Tophat_32:

(Start: 11 @28217 has 22 MA's), (18, 28259), (22, 28277), (25, 28289), (26, 28298), (27, 28310), (30, 28340), (32, 28355), (36, 28382), (41, 28415), (47, 28442), (54, 28481), (65, 28577), (68, 28595), (70, 28637), (71, 28643), (73, 28661),

Gene: TwoBits_25 Start: 18989, Stop: 19336, Start Num: 9

Candidate Starts for TwoBits_25:

(Start: 9 @18989 has 22 MA's), (23, 19055), (37, 19157), (38, 19163), (52, 19238), (58, 19289),

Gene: ValentiniPuff_79 Start: 47112, Stop: 47483, Start Num: 11

Candidate Starts for ValentiniPuff_79:

(Start: 11 @47112 has 22 MA's), (14, 47127), (16, 47142), (21, 47166), (31, 47238), (34, 47259), (39, 47286), (44, 47322), (48, 47337), (63, 47442), (64, 47445),

Gene: Wardwill_28 Start: 18770, Stop: 19117, Start Num: 9

Candidate Starts for Wardwill_28:

(Start: 9 @18770 has 22 MA's), (37, 18938), (52, 19019), (58, 19070),

Gene: WestPM_25 Start: 18517, Stop: 18843, Start Num: 9

Candidate Starts for WestPM_25:

(Start: 9 @18517 has 22 MA's), (28, 18634), (37, 18685), (38, 18691), (51, 18760), (52, 18766), (58, 18817),

Gene: WilliamStrong_25 Start: 20264, Stop: 20584, Start Num: 9

Candidate Starts for WilliamStrong_25:

(Start: 9 @20264 has 22 MA's), (21, 20321), (25, 20336), (28, 20381), (37, 20432), (40, 20450), (52, 20513), (55, 20537),

Gene: Zayuliv_26 Start: 19198, Stop: 19545, Start Num: 9

Candidate Starts for Zayuliv_26:

(Start: 9 @19198 has 22 MA's), (37, 19366), (52, 19447), (58, 19498),

Gene: Zepp_27 Start: 18596, Stop: 18943, Start Num: 9

Candidate Starts for Zepp_27:

(Start: 9 @18596 has 22 MA's), (37, 18764), (52, 18845), (58, 18896),