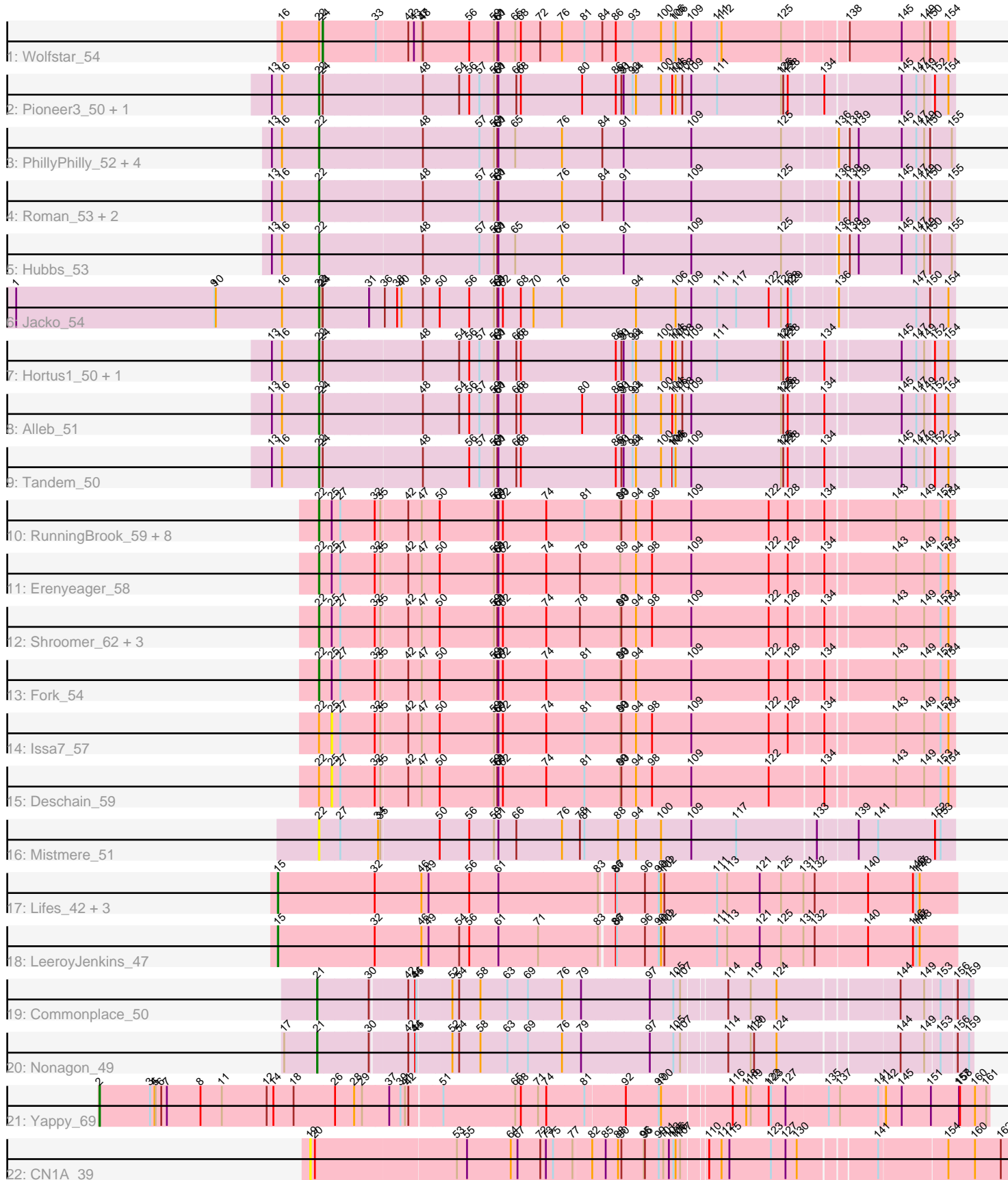


Pham 308812



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 308812 Report

This analysis was run 06/27/26 on database version 652.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 308812 has 44 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Wolfstar_54
- Track 2 : Pioneer3_50, Platte_50
- Track 3 : PhillyPhilly_52, Solimine_53, Lupine_51, Pavlo_52, Uterion_55
- Track 4 : Roman_53, Saradis_53, DejaVu_54
- Track 5 : Hubbs_53
- Track 6 : Jacko_54
- Track 7 : Hortus1_50, OlinDD_50
- Track 8 : Alleb_51
- Track 9 : Tandem_50
- Track 10 : RunningBrook_59, SteakFry_60, DustyDino_61, Yuma_57, Musetta_58, HollowPurple_59, Welcome_59, Lyell_58, ASegato_57
- Track 11 : Erenyeager_58
- Track 12 : Shroomer_62, StevieWelch_58, Necrophoxinus_60, Casablanacas_59
- Track 13 : Fork_54
- Track 14 : Issa7_57
- Track 15 : Deschain_59
- Track 16 : Mistmere_51
- Track 17 : Lifes_42, Cassita_46, WaterT_45, BarnCat_40
- Track 18 : LeeroyJenkins_47
- Track 19 : Commonplace_50
- Track 20 : Nonagon_49
- Track 21 : Yappy_69
- Track 22 : CN1A_39

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 28 of the 37 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ASegato_57, Alleb_51, Casablanacas_59, DejaVu_54, DustyDino_61, Erenyeager_58, Fork_54, HollowPurple_59, Hortus1_50, Hubbs_53, Jacko_54, Lupine_51, Lyell_58, Mistmere_51, Musetta_58, Necrophoxinus_60, OlinDD_50, Pavlo_52, PhillyPhilly_52, Pioneer3_50, Platte_50, Roman_53, RunningBrook_59, Saradis_53, Shroomer_62, Solimine_53, SteakFry_60, StevieWelch_58, Tandem_50, Uterion_55, Welcome_59, Yuma_57,

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

- Deschain_59, Issa7_57, Wolfstar_54,

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

- BarnCat_40, CN1A_39, Cassita_46, Commonplace_50, LeeroyJenkins_47, Lifes_42, Nonagon_49, WaterT_45, Yappy_69,

Summary by start number:

Start 2:

- Found in 1 of 44 (2.3%) of genes in pham
- Manual Annotations of this start: 1 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yappy_69 (singleton),

Start 15:

- Found in 5 of 44 (11.4%) of genes in pham
- Manual Annotations of this start: 5 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BarnCat_40 (GB), Cassita_46 (GB), LeeroyJenkins_47 (GB), Lifes_42 (GB), WaterT_45 (GB),

Start 19:

- Found in 1 of 44 (2.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CN1A_39 (singleton),

Start 21:

- Found in 2 of 44 (4.5%) of genes in pham
- Manual Annotations of this start: 2 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Commonplace_50 (JD), Nonagon_49 (JD),

Start 22:

- Found in 35 of 44 (79.5%) of genes in pham
- Manual Annotations of this start: 28 of 37
- Called 91.4% of time when present
- Phage (with cluster) where this start called: ASegato_57 (ED2), Alleb_51 (ED1), Casablanacas_59 (ED2), DejaVu_54 (ED1), DustyDino_61 (ED2), Erenyeager_58 (ED2), Fork_54 (ED2), HollowPurple_59 (ED2), Hortus1_50 (ED1), Hubbs_53 (ED1), Jacko_54 (ED1), Lupine_51 (ED1), Lyell_58 (ED2), Mistmere_51 (ED3), Musetta_58 (ED2), Necrophoxinus_60 (ED2), OlinDD_50 (ED1), Pavlo_52 (ED1), PhillyPhilly_52 (ED1), Pioneer3_50 (ED1), Platte_50 (ED1), Roman_53 (ED1), RunningBrook_59 (ED2), Saradis_53 (ED1), Shroomer_62 (ED2), Solimine_53 (ED1), SteakFry_60

(ED2), StevieWelch_58 (ED2), Tandem_50 (ED1), Uterion_55 (ED1), Welcome_59 (ED2), Yuma_57 (ED2),

Start 24:

- Found in 8 of 44 (18.2%) of genes in pham
- Manual Annotations of this start: 1 of 37
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Wolfstar_54 (ED),

Start 25:

- Found in 17 of 44 (38.6%) of genes in pham
- No Manual Annotations of this start.
- Called 11.8% of time when present
- Phage (with cluster) where this start called: Deschain_59 (ED2), Issa7_57 (ED2),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, ED, ED2, ED3, ED1, GB, JD,

Info for manual annotations of cluster ED:

- Start number 24 was manually annotated 1 time for cluster ED.

Info for manual annotations of cluster ED1:

- Start number 22 was manually annotated 13 times for cluster ED1.

Info for manual annotations of cluster ED2:

- Start number 22 was manually annotated 15 times for cluster ED2.

Info for manual annotations of cluster GB:

- Start number 15 was manually annotated 5 times for cluster GB.

Info for manual annotations of cluster JD:

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

Gene Information:

Gene: ASegato_57 Start: 31302, Stop: 32927, Start Num: 22

Candidate Starts for ASegato_57:

(Start: 22 @31302 has 28 MA's), (25, 31335), (27, 31356), (32, 31440), (35, 31455), (42, 31524), (47, 31560), (50, 31605), (59, 31749), (60, 31755), (61, 31758), (62, 31770), (74, 31884), (81, 31986), (89, 32079), (90, 32082), (94, 32118), (98, 32160), (109, 32265), (122, 32469), (128, 32520), (134, 32601), (143, 32775), (149, 32850), (153, 32889), (154, 32910),

Gene: Alleb_51 Start: 31424, Stop: 33049, Start Num: 22

Candidate Starts for Alleb_51:

(13, 31304), (16, 31331), (Start: 22 @31424 has 28 MA's), (Start: 24 @31433 has 1 MA's), (48, 31685), (54, 31778), (56, 31805), (57, 31832), (59, 31871), (60, 31877), (61, 31880), (66, 31928), (68, 31940), (80, 32102), (86, 32189), (90, 32204), (91, 32210), (93, 32231), (94, 32240), (100, 32306), (104, 32336), (106, 32345), (108, 32363), (109, 32387), (125, 32627), (126, 32633), (128, 32645), (134,

32726), (145, 32915), (147, 32954), (149, 32975), (152, 32996), (154, 33032),

Gene: BarnCat_40 Start: 25568, Stop: 27331, Start Num: 15

Candidate Starts for BarnCat_40:

(Start: 15 @25568 has 5 MA's), (32, 25823), (46, 25946), (49, 25964), (56, 26072), (61, 26147), (83, 26411), (86, 26444), (87, 26447), (96, 26519), (99, 26555), (100, 26561), (102, 26570), (111, 26708), (113, 26735), (121, 26822), (125, 26879), (131, 26939), (132, 26969), (140, 27101), (146, 27221), (147, 27230), (148, 27239),

Gene: CN1A_39 Start: 25759, Stop: 23900, Start Num: 19

Candidate Starts for CN1A_39:

(19, 25759), (20, 25747), (53, 25390), (55, 25363), (64, 25249), (67, 25231), (72, 25171), (73, 25156), (75, 25138), (77, 25087), (82, 25039), (85, 25003), (88, 24973), (90, 24964), (95, 24907), (96, 24904), (99, 24868), (101, 24856), (103, 24841), (105, 24829), (106, 24823), (107, 24814), (110, 24757), (112, 24724), (115, 24703), (123, 24592), (127, 24553), (130, 24523), (141, 24340), (154, 24166), (160, 24097), (162, 24028),

Gene: Casablancas_59 Start: 31042, Stop: 32667, Start Num: 22

Candidate Starts for Casablancas_59:

(Start: 22 @31042 has 28 MA's), (25, 31075), (27, 31096), (32, 31180), (35, 31195), (42, 31264), (47, 31300), (50, 31345), (59, 31489), (60, 31495), (61, 31498), (62, 31510), (74, 31624), (78, 31714), (89, 31819), (90, 31822), (94, 31858), (98, 31900), (109, 32005), (122, 32209), (128, 32260), (134, 32341), (143, 32515), (149, 32590), (153, 32629), (154, 32650),

Gene: Cassita_46 Start: 27944, Stop: 29707, Start Num: 15

Candidate Starts for Cassita_46:

(Start: 15 @27944 has 5 MA's), (32, 28199), (46, 28322), (49, 28340), (56, 28448), (61, 28523), (83, 28787), (86, 28820), (87, 28823), (96, 28895), (99, 28931), (100, 28937), (102, 28946), (111, 29084), (113, 29111), (121, 29198), (125, 29255), (131, 29315), (132, 29345), (140, 29477), (146, 29597), (147, 29606), (148, 29615),

Gene: Commonplace_50 Start: 31809, Stop: 33428, Start Num: 21

Candidate Starts for Commonplace_50:

(Start: 21 @31809 has 2 MA's), (30, 31935), (42, 32028), (44, 32046), (45, 32049), (52, 32133), (54, 32151), (58, 32208), (63, 32280), (69, 32334), (76, 32424), (79, 32475), (97, 32643), (105, 32706), (107, 32721), (114, 32829), (119, 32889), (124, 32958), (144, 33249), (149, 33312), (153, 33348), (156, 33387), (159, 33417),

Gene: DejaVu_54 Start: 30516, Stop: 32141, Start Num: 22

Candidate Starts for DejaVu_54:

(13, 30396), (16, 30423), (Start: 22 @30516 has 28 MA's), (48, 30777), (57, 30924), (59, 30963), (60, 30969), (61, 30972), (76, 31140), (84, 31248), (91, 31302), (109, 31479), (125, 31719), (136, 31848), (138, 31869), (139, 31893), (145, 32007), (147, 32046), (149, 32067), (150, 32082), (155, 32133),

Gene: Deschain_59 Start: 31739, Stop: 33331, Start Num: 25

Candidate Starts for Deschain_59:

(Start: 22 @31706 has 28 MA's), (25, 31739), (27, 31760), (32, 31844), (35, 31859), (42, 31928), (47, 31964), (50, 32009), (59, 32153), (60, 32159), (61, 32162), (62, 32174), (74, 32288), (81, 32390), (89, 32483), (90, 32486), (94, 32522), (98, 32564), (109, 32669), (122, 32873), (134, 33005), (143, 33179), (149, 33254), (153, 33293), (154, 33314),

Gene: DustyDino_61 Start: 31900, Stop: 33525, Start Num: 22

Candidate Starts for DustyDino_61:

(Start: 22 @31900 has 28 MA's), (25, 31933), (27, 31954), (32, 32038), (35, 32053), (42, 32122), (47, 32158), (50, 32203), (59, 32347), (60, 32353), (61, 32356), (62, 32368), (74, 32482), (81, 32584), (89, 32677), (90, 32680), (94, 32716), (98, 32758), (109, 32863), (122, 33067), (128, 33118), (134, 33199), (143, 33373), (149, 33448), (153, 33487), (154, 33508),

Gene: Erenyeager_58 Start: 31292, Stop: 32917, Start Num: 22

Candidate Starts for Erenyeager_58:

(Start: 22 @31292 has 28 MA's), (25, 31325), (27, 31346), (32, 31430), (35, 31445), (42, 31514), (47, 31550), (50, 31595), (59, 31739), (60, 31745), (61, 31748), (62, 31760), (74, 31874), (78, 31964), (89, 32069), (94, 32108), (98, 32150), (109, 32255), (122, 32459), (128, 32510), (134, 32591), (143, 32765), (149, 32840), (153, 32879), (154, 32900),

Gene: Fork_54 Start: 30952, Stop: 32577, Start Num: 22

Candidate Starts for Fork_54:

(Start: 22 @30952 has 28 MA's), (25, 30985), (27, 31006), (32, 31090), (35, 31105), (42, 31174), (47, 31210), (50, 31255), (59, 31399), (60, 31405), (61, 31408), (62, 31420), (74, 31534), (81, 31636), (89, 31729), (90, 31732), (94, 31768), (109, 31915), (122, 32119), (128, 32170), (134, 32251), (143, 32425), (149, 32500), (153, 32539), (154, 32560),

Gene: HollowPurple_59 Start: 31508, Stop: 33133, Start Num: 22

Candidate Starts for HollowPurple_59:

(Start: 22 @31508 has 28 MA's), (25, 31541), (27, 31562), (32, 31646), (35, 31661), (42, 31730), (47, 31766), (50, 31811), (59, 31955), (60, 31961), (61, 31964), (62, 31976), (74, 32090), (81, 32192), (89, 32285), (90, 32288), (94, 32324), (98, 32366), (109, 32471), (122, 32675), (128, 32726), (134, 32807), (143, 32981), (149, 33056), (153, 33095), (154, 33116),

Gene: Hortus1_50 Start: 31414, Stop: 33039, Start Num: 22

Candidate Starts for Hortus1_50:

(13, 31294), (16, 31321), (Start: 22 @31414 has 28 MA's), (Start: 24 @31423 has 1 MA's), (48, 31675), (54, 31768), (56, 31795), (57, 31822), (59, 31861), (60, 31867), (61, 31870), (66, 31918), (68, 31930), (86, 32179), (90, 32194), (91, 32200), (93, 32221), (94, 32230), (100, 32296), (104, 32326), (106, 32335), (108, 32353), (109, 32377), (111, 32446), (125, 32617), (126, 32623), (128, 32635), (134, 32716), (145, 32905), (147, 32944), (149, 32965), (152, 32986), (154, 33022),

Gene: Hubbs_53 Start: 30728, Stop: 32353, Start Num: 22

Candidate Starts for Hubbs_53:

(13, 30608), (16, 30635), (Start: 22 @30728 has 28 MA's), (48, 30989), (57, 31136), (59, 31175), (60, 31181), (61, 31184), (65, 31229), (76, 31352), (91, 31514), (109, 31691), (125, 31931), (136, 32060), (138, 32081), (139, 32105), (145, 32219), (147, 32258), (149, 32279), (150, 32294), (155, 32345),

Gene: Issa7_57 Start: 30989, Stop: 32581, Start Num: 25

Candidate Starts for Issa7_57:

(Start: 22 @30956 has 28 MA's), (25, 30989), (27, 31010), (32, 31094), (35, 31109), (42, 31178), (47, 31214), (50, 31259), (59, 31403), (60, 31409), (61, 31412), (62, 31424), (74, 31538), (81, 31640), (89, 31733), (90, 31736), (94, 31772), (98, 31814), (109, 31919), (122, 32123), (128, 32174), (134, 32255), (143, 32429), (149, 32504), (153, 32543), (154, 32564),

Gene: Jacko_54 Start: 30270, Stop: 31898, Start Num: 22

Candidate Starts for Jacko_54:

(1, 29466), (9, 29997), (10, 30000), (16, 30177), (Start: 22 @30270 has 28 MA's), (23, 30276), (Start: 24 @30279 has 1 MA's), (31, 30393), (36, 30429), (38, 30462), (40, 30474), (48, 30531), (50, 30573), (56, 30651), (59, 30717), (60, 30723), (61, 30726), (62, 30738), (68, 30786), (70, 30819), (76, 30894), (94, 31089), (106, 31194), (109, 31236), (111, 31305), (117, 31356), (122, 31443), (125, 31476), (128,

31494), (129, 31503), (136, 31605), (147, 31803), (150, 31839), (154, 31881),

Gene: LeeroyJenkins_47 Start: 28827, Stop: 30590, Start Num: 15

Candidate Starts for LeeroyJenkins_47:

(Start: 15 @28827 has 5 MA's), (32, 29082), (46, 29205), (49, 29223), (54, 29304), (56, 29331), (61, 29406), (71, 29511), (83, 29670), (86, 29703), (87, 29706), (96, 29778), (99, 29814), (100, 29820), (102, 29829), (111, 29967), (113, 29994), (121, 30081), (125, 30138), (131, 30198), (132, 30228), (140, 30360), (146, 30480), (147, 30489), (148, 30498),

Gene: Lifes_42 Start: 25599, Stop: 27362, Start Num: 15

Candidate Starts for Lifes_42:

(Start: 15 @25599 has 5 MA's), (32, 25854), (46, 25977), (49, 25995), (56, 26103), (61, 26178), (83, 26442), (86, 26475), (87, 26478), (96, 26550), (99, 26586), (100, 26592), (102, 26601), (111, 26739), (113, 26766), (121, 26853), (125, 26910), (131, 26970), (132, 27000), (140, 27132), (146, 27252), (147, 27261), (148, 27270),

Gene: Lupine_51 Start: 29930, Stop: 31555, Start Num: 22

Candidate Starts for Lupine_51:

(13, 29810), (16, 29837), (Start: 22 @29930 has 28 MA's), (48, 30191), (57, 30338), (59, 30377), (60, 30383), (61, 30386), (65, 30431), (76, 30554), (84, 30662), (91, 30716), (109, 30893), (125, 31133), (136, 31262), (138, 31283), (139, 31307), (145, 31421), (147, 31460), (149, 31481), (150, 31496), (155, 31547),

Gene: Lyell_58 Start: 31211, Stop: 32836, Start Num: 22

Candidate Starts for Lyell_58:

(Start: 22 @31211 has 28 MA's), (25, 31244), (27, 31265), (32, 31349), (35, 31364), (42, 31433), (47, 31469), (50, 31514), (59, 31658), (60, 31664), (61, 31667), (62, 31679), (74, 31793), (81, 31895), (89, 31988), (90, 31991), (94, 32027), (98, 32069), (109, 32174), (122, 32378), (128, 32429), (134, 32510), (143, 32684), (149, 32759), (153, 32798), (154, 32819),

Gene: Mistmere_51 Start: 30302, Stop: 31933, Start Num: 22

Candidate Starts for Mistmere_51:

(Start: 22 @30302 has 28 MA's), (27, 30356), (34, 30449), (35, 30455), (50, 30605), (56, 30683), (59, 30749), (61, 30758), (66, 30806), (76, 30926), (78, 30974), (81, 30986), (88, 31073), (94, 31121), (100, 31187), (109, 31268), (117, 31385), (133, 31592), (139, 31682), (141, 31733), (152, 31880), (153, 31895),

Gene: Musetta_58 Start: 31672, Stop: 33297, Start Num: 22

Candidate Starts for Musetta_58:

(Start: 22 @31672 has 28 MA's), (25, 31705), (27, 31726), (32, 31810), (35, 31825), (42, 31894), (47, 31930), (50, 31975), (59, 32119), (60, 32125), (61, 32128), (62, 32140), (74, 32254), (81, 32356), (89, 32449), (90, 32452), (94, 32488), (98, 32530), (109, 32635), (122, 32839), (128, 32890), (134, 32971), (143, 33145), (149, 33220), (153, 33259), (154, 33280),

Gene: Necrophoxinus_60 Start: 31906, Stop: 33531, Start Num: 22

Candidate Starts for Necrophoxinus_60:

(Start: 22 @31906 has 28 MA's), (25, 31939), (27, 31960), (32, 32044), (35, 32059), (42, 32128), (47, 32164), (50, 32209), (59, 32353), (60, 32359), (61, 32362), (62, 32374), (74, 32488), (78, 32578), (89, 32683), (90, 32686), (94, 32722), (98, 32764), (109, 32869), (122, 33073), (128, 33124), (134, 33205), (143, 33379), (149, 33454), (153, 33493), (154, 33514),

Gene: Nonagon_49 Start: 31515, Stop: 33134, Start Num: 21

Candidate Starts for Nonagon_49:

(17, 31428), (Start: 21 @31515 has 2 MA's), (30, 31641), (42, 31734), (44, 31752), (45, 31755), (52, 31839), (54, 31857), (58, 31914), (63, 31986), (69, 32040), (76, 32130), (79, 32181), (97, 32349), (105, 32412), (107, 32427), (114, 32535), (119, 32595), (120, 32604), (124, 32664), (144, 32955), (149, 33018), (153, 33054), (156, 33093), (159, 33123),

Gene: OlinDD_50 Start: 31413, Stop: 33038, Start Num: 22

Candidate Starts for OlinDD_50:

(13, 31293), (16, 31320), (Start: 22 @31413 has 28 MA's), (Start: 24 @31422 has 1 MA's), (48, 31674), (54, 31767), (56, 31794), (57, 31821), (59, 31860), (60, 31866), (61, 31869), (66, 31917), (68, 31929), (86, 32178), (90, 32193), (91, 32199), (93, 32220), (94, 32229), (100, 32295), (104, 32325), (106, 32334), (108, 32352), (109, 32376), (111, 32445), (125, 32616), (126, 32622), (128, 32634), (134, 32715), (145, 32904), (147, 32943), (149, 32964), (152, 32985), (154, 33021),

Gene: Pavlo_52 Start: 30575, Stop: 32200, Start Num: 22

Candidate Starts for Pavlo_52:

(13, 30455), (16, 30482), (Start: 22 @30575 has 28 MA's), (48, 30836), (57, 30983), (59, 31022), (60, 31028), (61, 31031), (65, 31076), (76, 31199), (84, 31307), (91, 31361), (109, 31538), (125, 31778), (136, 31907), (138, 31928), (139, 31952), (145, 32066), (147, 32105), (149, 32126), (150, 32141), (155, 32192),

Gene: PhillyPhilly_52 Start: 30109, Stop: 31734, Start Num: 22

Candidate Starts for PhillyPhilly_52:

(13, 29989), (16, 30016), (Start: 22 @30109 has 28 MA's), (48, 30370), (57, 30517), (59, 30556), (60, 30562), (61, 30565), (65, 30610), (76, 30733), (84, 30841), (91, 30895), (109, 31072), (125, 31312), (136, 31441), (138, 31462), (139, 31486), (145, 31600), (147, 31639), (149, 31660), (150, 31675), (155, 31726),

Gene: Pioneer3_50 Start: 31421, Stop: 33046, Start Num: 22

Candidate Starts for Pioneer3_50:

(13, 31301), (16, 31328), (Start: 22 @31421 has 28 MA's), (Start: 24 @31430 has 1 MA's), (48, 31682), (54, 31775), (56, 31802), (57, 31829), (59, 31868), (60, 31874), (61, 31877), (66, 31925), (68, 31937), (80, 32099), (86, 32186), (90, 32201), (91, 32207), (93, 32228), (94, 32237), (100, 32303), (104, 32333), (106, 32342), (108, 32360), (109, 32384), (111, 32453), (125, 32624), (126, 32630), (128, 32642), (134, 32723), (145, 32912), (147, 32951), (149, 32972), (152, 32993), (154, 33029),

Gene: Platte_50 Start: 31206, Stop: 32831, Start Num: 22

Candidate Starts for Platte_50:

(13, 31086), (16, 31113), (Start: 22 @31206 has 28 MA's), (Start: 24 @31215 has 1 MA's), (48, 31467), (54, 31560), (56, 31587), (57, 31614), (59, 31653), (60, 31659), (61, 31662), (66, 31710), (68, 31722), (80, 31884), (86, 31971), (90, 31986), (91, 31992), (93, 32013), (94, 32022), (100, 32088), (104, 32118), (106, 32127), (108, 32145), (109, 32169), (111, 32238), (125, 32409), (126, 32415), (128, 32427), (134, 32508), (145, 32697), (147, 32736), (149, 32757), (152, 32778), (154, 32814),

Gene: Roman_53 Start: 30576, Stop: 32201, Start Num: 22

Candidate Starts for Roman_53:

(13, 30456), (16, 30483), (Start: 22 @30576 has 28 MA's), (48, 30837), (57, 30984), (59, 31023), (60, 31029), (61, 31032), (76, 31200), (84, 31308), (91, 31362), (109, 31539), (125, 31779), (136, 31908), (138, 31929), (139, 31953), (145, 32067), (147, 32106), (149, 32127), (150, 32142), (155, 32193),

Gene: RunningBrook_59 Start: 31900, Stop: 33525, Start Num: 22

Candidate Starts for RunningBrook_59:

(Start: 22 @31900 has 28 MA's), (25, 31933), (27, 31954), (32, 32038), (35, 32053), (42, 32122), (47, 32158), (50, 32203), (59, 32347), (60, 32353), (61, 32356), (62, 32368), (74, 32482), (81, 32584), (89,

32677), (90, 32680), (94, 32716), (98, 32758), (109, 32863), (122, 33067), (128, 33118), (134, 33199), (143, 33373), (149, 33448), (153, 33487), (154, 33508),

Gene: Saradis_53 Start: 30168, Stop: 31793, Start Num: 22

Candidate Starts for Saradis_53:

(13, 30048), (16, 30075), (Start: 22 @30168 has 28 MA's), (48, 30429), (57, 30576), (59, 30615), (60, 30621), (61, 30624), (76, 30792), (84, 30900), (91, 30954), (109, 31131), (125, 31371), (136, 31500), (138, 31521), (139, 31545), (145, 31659), (147, 31698), (149, 31719), (150, 31734), (155, 31785),

Gene: Shroomer_62 Start: 31442, Stop: 33067, Start Num: 22

Candidate Starts for Shroomer_62:

(Start: 22 @31442 has 28 MA's), (25, 31475), (27, 31496), (32, 31580), (35, 31595), (42, 31664), (47, 31700), (50, 31745), (59, 31889), (60, 31895), (61, 31898), (62, 31910), (74, 32024), (78, 32114), (89, 32219), (90, 32222), (94, 32258), (98, 32300), (109, 32405), (122, 32609), (128, 32660), (134, 32741), (143, 32915), (149, 32990), (153, 33029), (154, 33050),

Gene: Solimine_53 Start: 30582, Stop: 32207, Start Num: 22

Candidate Starts for Solimine_53:

(13, 30462), (16, 30489), (Start: 22 @30582 has 28 MA's), (48, 30843), (57, 30990), (59, 31029), (60, 31035), (61, 31038), (65, 31083), (76, 31206), (84, 31314), (91, 31368), (109, 31545), (125, 31785), (136, 31914), (138, 31935), (139, 31959), (145, 32073), (147, 32112), (149, 32133), (150, 32148), (155, 32199),

Gene: SteakFry_60 Start: 31508, Stop: 33133, Start Num: 22

Candidate Starts for SteakFry_60:

(Start: 22 @31508 has 28 MA's), (25, 31541), (27, 31562), (32, 31646), (35, 31661), (42, 31730), (47, 31766), (50, 31811), (59, 31955), (60, 31961), (61, 31964), (62, 31976), (74, 32090), (81, 32192), (89, 32285), (90, 32288), (94, 32324), (98, 32366), (109, 32471), (122, 32675), (128, 32726), (134, 32807), (143, 32981), (149, 33056), (153, 33095), (154, 33116),

Gene: StevieWelch_58 Start: 31292, Stop: 32917, Start Num: 22

Candidate Starts for StevieWelch_58:

(Start: 22 @31292 has 28 MA's), (25, 31325), (27, 31346), (32, 31430), (35, 31445), (42, 31514), (47, 31550), (50, 31595), (59, 31739), (60, 31745), (61, 31748), (62, 31760), (74, 31874), (78, 31964), (89, 32069), (90, 32072), (94, 32108), (98, 32150), (109, 32255), (122, 32459), (128, 32510), (134, 32591), (143, 32765), (149, 32840), (153, 32879), (154, 32900),

Gene: Tandem_50 Start: 31360, Stop: 32985, Start Num: 22

Candidate Starts for Tandem_50:

(13, 31240), (16, 31267), (Start: 22 @31360 has 28 MA's), (Start: 24 @31369 has 1 MA's), (48, 31621), (56, 31741), (57, 31768), (59, 31807), (60, 31813), (61, 31816), (66, 31864), (68, 31876), (86, 32125), (90, 32140), (91, 32146), (93, 32167), (94, 32176), (100, 32242), (104, 32272), (105, 32275), (106, 32281), (109, 32323), (125, 32563), (126, 32569), (128, 32581), (134, 32662), (145, 32851), (147, 32890), (149, 32911), (152, 32932), (154, 32968),

Gene: Uterion_55 Start: 30677, Stop: 32302, Start Num: 22

Candidate Starts for Uterion_55:

(13, 30557), (16, 30584), (Start: 22 @30677 has 28 MA's), (48, 30938), (57, 31085), (59, 31124), (60, 31130), (61, 31133), (65, 31178), (76, 31301), (84, 31409), (91, 31463), (109, 31640), (125, 31880), (136, 32009), (138, 32030), (139, 32054), (145, 32168), (147, 32207), (149, 32228), (150, 32243), (155, 32294),

Gene: WaterT_45 Start: 27688, Stop: 29451, Start Num: 15

Candidate Starts for WaterT_45:

(Start: 15 @27688 has 5 MA's), (32, 27943), (46, 28066), (49, 28084), (56, 28192), (61, 28267), (83, 28531), (86, 28564), (87, 28567), (96, 28639), (99, 28675), (100, 28681), (102, 28690), (111, 28828), (113, 28855), (121, 28942), (125, 28999), (131, 29059), (132, 29089), (140, 29221), (146, 29341), (147, 29350), (148, 29359),

Gene: Welcome_59 Start: 31657, Stop: 33282, Start Num: 22

Candidate Starts for Welcome_59:

(Start: 22 @31657 has 28 MA's), (25, 31690), (27, 31711), (32, 31795), (35, 31810), (42, 31879), (47, 31915), (50, 31960), (59, 32104), (60, 32110), (61, 32113), (62, 32125), (74, 32239), (81, 32341), (89, 32434), (90, 32437), (94, 32473), (98, 32515), (109, 32620), (122, 32824), (128, 32875), (134, 32956), (143, 33130), (149, 33205), (153, 33244), (154, 33265),

Gene: Wolfstar_54 Start: 31690, Stop: 33306, Start Num: 24

Candidate Starts for Wolfstar_54:

(16, 31588), (Start: 22 @31681 has 28 MA's), (Start: 24 @31690 has 1 MA's), (33, 31822), (42, 31903), (43, 31918), (47, 31939), (48, 31942), (56, 32062), (59, 32128), (60, 32134), (61, 32137), (65, 32182), (68, 32197), (72, 32248), (76, 32305), (81, 32365), (84, 32413), (86, 32446), (93, 32488), (100, 32563), (105, 32596), (106, 32602), (109, 32644), (111, 32713), (112, 32725), (125, 32884), (138, 33034), (145, 33172), (149, 33232), (150, 33247), (154, 33289),

Gene: Yappy_69 Start: 29829, Stop: 32126, Start Num: 2

Candidate Starts for Yappy_69:

(Start: 2 @29829 has 1 MA's), (3, 29964), (4, 29976), (5, 29979), (6, 29994), (7, 30009), (8, 30099), (11, 30156), (12, 30276), (14, 30294), (18, 30348), (26, 30456), (28, 30507), (29, 30528), (37, 30600), (39, 30630), (41, 30642), (42, 30651), (51, 30732), (65, 30921), (68, 30936), (71, 30981), (74, 31002), (81, 31101), (92, 31197), (99, 31281), (100, 31287), (116, 31452), (118, 31488), (119, 31500), (122, 31548), (123, 31554), (127, 31593), (135, 31704), (137, 31734), (141, 31836), (142, 31851), (145, 31893), (151, 31971), (157, 32046), (158, 32049), (160, 32088), (161, 32118),

Gene: Yuma_57 Start: 31226, Stop: 32851, Start Num: 22

Candidate Starts for Yuma_57:

(Start: 22 @31226 has 28 MA's), (25, 31259), (27, 31280), (32, 31364), (35, 31379), (42, 31448), (47, 31484), (50, 31529), (59, 31673), (60, 31679), (61, 31682), (62, 31694), (74, 31808), (81, 31910), (89, 32003), (90, 32006), (94, 32042), (98, 32084), (109, 32189), (122, 32393), (128, 32444), (134, 32525), (143, 32699), (149, 32774), (153, 32813), (154, 32834),