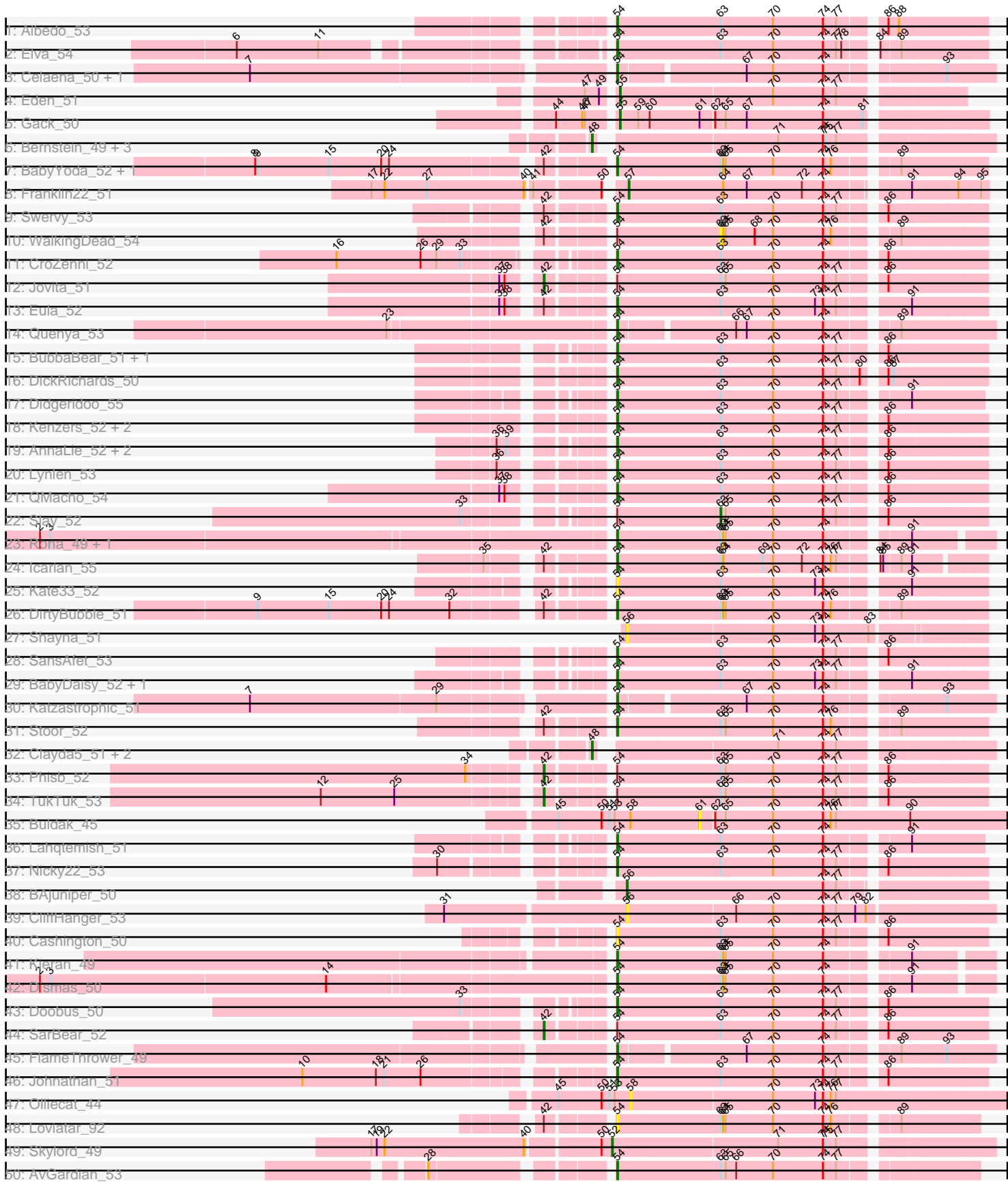
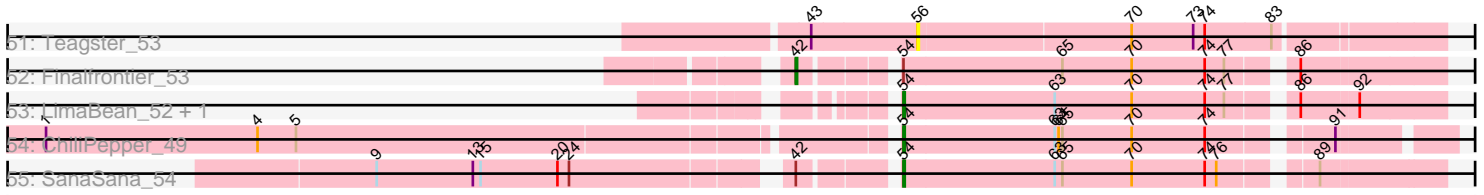


Pham 196512



Pham 196512



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 196512 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196512 has 70 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Albedo_53
- Track 2 : Elva_54
- Track 3 : Celaena_50, Bachaco_50
- Track 4 : Eden_51
- Track 5 : Gack_50
- Track 6 : Bernstein_49, Rollins_49, Coltrane_49, Brahms_49
- Track 7 : BabyYoda_52, Stromboli_52
- Track 8 : Franklin22_51
- Track 9 : Swervy_53
- Track 10 : WalkingDead_54
- Track 11 : CroZenni_52
- Track 12 : Jovita_51
- Track 13 : Eula_52
- Track 14 : Quenya_53
- Track 15 : BubbaBear_51, Avocadoman_50
- Track 16 : DickRichards_50
- Track 17 : Didgeridoo_55
- Track 18 : Kenzers_52, Albright_49, Burritobowl_52
- Track 19 : AnnaLie_52, BelmontSKP_52, Arroyo_52
- Track 20 : Lynlen_53
- Track 21 : QMacho_54
- Track 22 : Slay_52
- Track 23 : Rona_49, Sharkboy_50
- Track 24 : Icarian_55
- Track 25 : Kate33_52
- Track 26 : DirtyBubble_51
- Track 27 : Shayna_51
- Track 28 : SansAfet_53
- Track 29 : BabyDaisy_52, IndyLu_52
- Track 30 : Katzastrophic_51
- Track 31 : Stoor_52
- Track 32 : Clayda5_51, Armstrong_49, Vitas_49
- Track 33 : Phisb_52
- Track 34 : TukTuk_53
- Track 35 : Buldak_45
- Track 36 : Lahqtemish_51
- Track 37 : Nicky22_53

- Track 38 : BAjuniper_50
- Track 39 : CliffHanger_53
- Track 40 : Cashington_50
- Track 41 : Kieran_49
- Track 42 : Dismas_50
- Track 43 : Doobus_50
- Track 44 : SarBear_52
- Track 45 : FlameThrower_49
- Track 46 : Johnathan_51
- Track 47 : Olliecat_44
- Track 48 : Loviatar_92
- Track 49 : Skylord_49
- Track 50 : AvGardian_53
- Track 51 : Teagster_53
- Track 52 : Finalfrontier_53
- Track 53 : LimaBean_52, Abigail_51
- Track 54 : ChiliPepper_49
- Track 55 : SanaSana_54

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

The start number called the most often in the published annotations is 54, it was called in 43 of the 61 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abigail_51, Albedo_53, Albright_49, AnnaLie_52, Arroyo_52, AvGardian_53, Avocadoman_50, BabyDaisy_52, BabyYoda_52, Bachaco_50, BelmontSKP_52, BubbaBear_51, Burritobowl_52, Cashington_50, Celaena_50, ChiliPepper_49, CroZenni_52, DickRichards_50, Didgeridoo_55, DirtyBubble_51, Dismas_50, Doobus_50, Elva_54, Eula_52, FlameThrower_49, Icarian_55, IndyLu_52, Johnathan_51, Kate33_52, Katzastrophic_51, Kenzers_52, Kieran_49, Lahqtemish_51, LimaBean_52, Loviatar_92, Lynlen_53, Nicky22_53, QMacho_54, Quenya_53, Rona_49, SanaSana_54, SansAfet_53, Sharkboy_50, Stoor_52, Stromboli_52, Swervy_53,

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

- Finalfrontier_53, Jovita_51, Phisb_52, SarBear_52, Slay_52, TukTuk_53, WalkingDead_54,

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

- Armstrong_49, BAjuniper_50, Bernstein_49, Brahms_49, Buldak_45, Clayda5_51, CliffHanger_53, Coltrane_49, Eden_51, Franklin22_51, Gack_50, Olliecat_44, Rollins_49, Shayna_51, Skylord_49, Teagster_53, Vitas_49,

Summary by start number:

Start 42:

- Found in 15 of 70 (21.4%) of genes in pham
- Manual Annotations of this start: 5 of 61
- Called 33.3% of time when present

- Phage (with cluster) where this start called: Finalfrontier_53 (EB), Jovita_51 (EB), Phisb_52 (EB), SarBear_52 (EB), TukTuk_53 (EB),

Start 48:

- Found in 7 of 70 (10.0%) of genes in pham
- Manual Annotations of this start: 7 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Armstrong_49 (EB), Bernstein_49 (EB), Brahms_49 (EB), Clayda5_51 (EB), Coltrane_49 (EB), Rollins_49 (EB), Vitas_49 (EB),

Start 52:

- Found in 1 of 70 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Skylord_49 (EB),

Start 54:

- Found in 53 of 70 (75.7%) of genes in pham
- Manual Annotations of this start: 43 of 61
- Called 86.8% of time when present
- Phage (with cluster) where this start called: Abigail_51 (EB), Albedo_53 (EB), Albright_49 (EB), AnnaLie_52 (EB), Arroyo_52 (EB), AvGardian_53 (EB), Avocadoman_50 (EB), BabyDaisy_52 (EB), BabyYoda_52 (EB), Bachaco_50 (EB), BelmontSKP_52 (EB), BubbaBear_51 (EB), Burritobowl_52 (EB), Cashington_50 (EB), Celaena_50 (EB), ChiliPepper_49 (EB), CroZenni_52 (EB), DickRichards_50 (EB), Didgeridoo_55 (EB), DirtyBubble_51 (EB), Dismas_50 (EB), Doobus_50 (EB), Elva_54 (EB), Eula_52 (EB), FlameThrower_49 (EB), Icarian_55 (EB), IndyLu_52 (EB), Johnathan_51 (EB), Kate33_52 (EB), Katzastrophic_51 (EB), Kenzers_52 (EB), Kieran_49 (EB), Lahqtemish_51 (EB), LimaBean_52 (EB), Loviatar_92 (EB), Lynlen_53 (EB), Nicky22_53 (EB), QMacho_54 (EB), Quenya_53 (EB), Rona_49 (EB), SanaSana_54 (EB), SansAfet_53 (EB), Sharkboy_50 (EB), Stoor_52 (EB), Stromboli_52 (EB), Swervy_53 (EB),

Start 55:

- Found in 2 of 70 (2.9%) of genes in pham
- Manual Annotations of this start: 2 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Eden_51 (EB), Gack_50 (EB),

Start 56:

- Found in 4 of 70 (5.7%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAjuniper_50 (EB), CliffHanger_53 (EB), Shayna_51 (EB), Teagster_53 (EB),

Start 57:

- Found in 1 of 70 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Franklin22_51 (EB),

Start 58:

- Found in 2 of 70 (2.9%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Olliecat_44 (EB),

Start 61:

- Found in 2 of 70 (2.9%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Buldak_45 (EB),

Start 63:

- Found in 47 of 70 (67.1%) of genes in pham
- Manual Annotations of this start: 1 of 61
- Called 4.3% of time when present
- Phage (with cluster) where this start called: Slay_52 (EB), WalkingDead_54 (EB),

Summary by clusters:

There is one cluster represented in this pham: EB

Info for manual annotations of cluster EB:

- Start number 42 was manually annotated 5 times for cluster EB.
- Start number 48 was manually annotated 7 times for cluster EB.
- Start number 52 was manually annotated 1 time for cluster EB.
- Start number 54 was manually annotated 43 times for cluster EB.
- Start number 55 was manually annotated 2 times for cluster EB.
- Start number 56 was manually annotated 1 time for cluster EB.
- Start number 57 was manually annotated 1 time for cluster EB.
- Start number 63 was manually annotated 1 time for cluster EB.

Gene Information:

Gene: Abigail_51 Start: 34257, Stop: 34655, Start Num: 54

Candidate Starts for Abigail_51:

(Start: 54 @34257 has 43 MA's), (Start: 63 @34374 has 1 MA's), (70, 34434), (74, 34491), (77, 34506), (86, 34548), (92, 34590),

Gene: Albedo_53 Start: 34982, Stop: 35380, Start Num: 54

Candidate Starts for Albedo_53:

(Start: 54 @34982 has 43 MA's), (Start: 63 @35099 has 1 MA's), (70, 35159), (74, 35216), (77, 35231), (86, 35273), (88, 35285),

Gene: Albright_49 Start: 33688, Stop: 34086, Start Num: 54

Candidate Starts for Albright_49:

(Start: 54 @33688 has 43 MA's), (Start: 63 @33805 has 1 MA's), (70, 33865), (74, 33922), (77, 33937), (86, 33979),

Gene: AnnaLie_52 Start: 34917, Stop: 35315, Start Num: 54

Candidate Starts for AnnaLie_52:

(36, 34830), (39, 34839), (Start: 54 @34917 has 43 MA's), (Start: 63 @35034 has 1 MA's), (70, 35094), (74, 35151), (77, 35166), (86, 35208),

Gene: Armstrong_49 Start: 32812, Stop: 33222, Start Num: 48
Candidate Starts for Armstrong_49:
(Start: 48 @32812 has 7 MA's), (71, 32998), (74, 33049), (77, 33064),

Gene: Arroyo_52 Start: 35025, Stop: 35423, Start Num: 54
Candidate Starts for Arroyo_52:
(36, 34938), (39, 34947), (Start: 54 @35025 has 43 MA's), (Start: 63 @35142 has 1 MA's), (70, 35202), (74, 35259), (77, 35274), (86, 35316),

Gene: AvGardian_53 Start: 35215, Stop: 35601, Start Num: 54
Candidate Starts for AvGardian_53:
(28, 35041), (Start: 54 @35215 has 43 MA's), (Start: 63 @35332 has 1 MA's), (65, 35338), (66, 35350), (70, 35392), (74, 35449), (77, 35464),

Gene: Avocadoman_50 Start: 33889, Stop: 34287, Start Num: 54
Candidate Starts for Avocadoman_50:
(Start: 54 @33889 has 43 MA's), (Start: 63 @34006 has 1 MA's), (70, 34066), (74, 34123), (77, 34138), (86, 34180),

Gene: BAjuniper_50 Start: 35580, Stop: 35963, Start Num: 56
Candidate Starts for BAjuniper_50:
(Start: 56 @35580 has 1 MA's), (74, 35802), (77, 35817),

Gene: BabyDaisy_52 Start: 35047, Stop: 35445, Start Num: 54
Candidate Starts for BabyDaisy_52:
(Start: 54 @35047 has 43 MA's), (Start: 63 @35164 has 1 MA's), (70, 35224), (73, 35272), (74, 35281), (77, 35296), (91, 35365),

Gene: BabyYoda_52 Start: 35636, Stop: 36031, Start Num: 54
Candidate Starts for BabyYoda_52:
(8, 35270), (9, 35273), (15, 35354), (20, 35414), (24, 35423), (Start: 42 @35573 has 5 MA's), (Start: 54 @35636 has 43 MA's), (Start: 63 @35753 has 1 MA's), (64, 35756), (65, 35759), (70, 35813), (74, 35870), (76, 35879), (89, 35939),

Gene: Bachaco_50 Start: 36378, Stop: 36770, Start Num: 54
Candidate Starts for Bachaco_50:
(7, 35997), (Start: 54 @36378 has 43 MA's), (67, 36513), (70, 36543), (74, 36600), (93, 36717),

Gene: BelmontSKP_52 Start: 34917, Stop: 35315, Start Num: 54
Candidate Starts for BelmontSKP_52:
(36, 34830), (39, 34839), (Start: 54 @34917 has 43 MA's), (Start: 63 @35034 has 1 MA's), (70, 35094), (74, 35151), (77, 35166), (86, 35208),

Gene: Bernstein_49 Start: 32810, Stop: 33220, Start Num: 48
Candidate Starts for Bernstein_49:
(Start: 48 @32810 has 7 MA's), (71, 32996), (74, 33047), (75, 33050), (77, 33062),

Gene: Brahms_49 Start: 32730, Stop: 33140, Start Num: 48
Candidate Starts for Brahms_49:
(Start: 48 @32730 has 7 MA's), (71, 32916), (74, 32967), (75, 32970), (77, 32982),

Gene: BubbaBear_51 Start: 34666, Stop: 35064, Start Num: 54
Candidate Starts for BubbaBear_51:
(Start: 54 @34666 has 43 MA's), (Start: 63 @34783 has 1 MA's), (70, 34843), (74, 34900), (77, 34915), (86, 34957),

Gene: Buldak_45 Start: 31351, Stop: 31743, Start Num: 61
Candidate Starts for Buldak_45:
(45, 31192), (50, 31240), (51, 31249), (53, 31255), (58, 31273), (61, 31351), (62, 31366), (65, 31378), (70, 31432), (74, 31489), (76, 31498), (77, 31504), (90, 31588),

Gene: Burritobowl_52 Start: 34596, Stop: 34994, Start Num: 54
Candidate Starts for Burritobowl_52:
(Start: 54 @34596 has 43 MA's), (Start: 63 @34713 has 1 MA's), (70, 34773), (74, 34830), (77, 34845), (86, 34887),

Gene: Cashington_50 Start: 34009, Stop: 34407, Start Num: 54
Candidate Starts for Cashington_50:
(Start: 54 @34009 has 43 MA's), (Start: 63 @34126 has 1 MA's), (70, 34186), (74, 34243), (77, 34258), (86, 34300),

Gene: Celaena_50 Start: 36140, Stop: 36532, Start Num: 54
Candidate Starts for Celaena_50:
(7, 35759), (Start: 54 @36140 has 43 MA's), (67, 36275), (70, 36305), (74, 36362), (93, 36479),

Gene: ChiliPepper_49 Start: 35441, Stop: 35836, Start Num: 54
Candidate Starts for ChiliPepper_49:
(1, 34808), (4, 34973), (5, 35003), (Start: 54 @35441 has 43 MA's), (Start: 63 @35558 has 1 MA's), (64, 35561), (65, 35564), (70, 35618), (74, 35675), (91, 35756),

Gene: Clayda5_51 Start: 32795, Stop: 33205, Start Num: 48
Candidate Starts for Clayda5_51:
(Start: 48 @32795 has 7 MA's), (71, 32981), (74, 33032), (77, 33047),

Gene: CliffHanger_53 Start: 32791, Stop: 33195, Start Num: 56
Candidate Starts for CliffHanger_53:
(31, 32593), (Start: 56 @32791 has 1 MA's), (66, 32911), (70, 32953), (74, 33010), (77, 33025), (79, 33046), (82, 33058),

Gene: Coltrane_49 Start: 32730, Stop: 33140, Start Num: 48
Candidate Starts for Coltrane_49:
(Start: 48 @32730 has 7 MA's), (71, 32916), (74, 32967), (75, 32970), (77, 32982),

Gene: CroZenni_52 Start: 34533, Stop: 34931, Start Num: 54
Candidate Starts for CroZenni_52:
(16, 34269), (26, 34365), (29, 34383), (33, 34410), (Start: 54 @34533 has 43 MA's), (Start: 63 @34650 has 1 MA's), (70, 34710), (74, 34767), (86, 34824),

Gene: DickRichards_50 Start: 34708, Stop: 35106, Start Num: 54
Candidate Starts for DickRichards_50:
(Start: 54 @34708 has 43 MA's), (Start: 63 @34825 has 1 MA's), (70, 34885), (74, 34942), (77, 34957), (80, 34981), (86, 34999), (87, 35005),

Gene: Didgeridoo_55 Start: 35393, Stop: 35785, Start Num: 54
Candidate Starts for Didgeridoo_55:
(Start: 54 @35393 has 43 MA's), (Start: 63 @35510 has 1 MA's), (70, 35570), (74, 35627), (77, 35642), (91, 35708),

Gene: DirtyBubble_51 Start: 35304, Stop: 35699, Start Num: 54
Candidate Starts for DirtyBubble_51:
(9, 34941), (15, 35022), (20, 35082), (24, 35091), (32, 35160), (Start: 42 @35241 has 5 MA's), (Start: 54 @35304 has 43 MA's), (Start: 63 @35421 has 1 MA's), (64, 35424), (65, 35427), (70, 35481), (74, 35538), (76, 35547), (89, 35607),

Gene: Dismas_50 Start: 35363, Stop: 35758, Start Num: 54
Candidate Starts for Dismas_50:
(2, 34739), (3, 34751), (14, 35063), (Start: 54 @35363 has 43 MA's), (Start: 63 @35480 has 1 MA's), (64, 35483), (65, 35486), (70, 35540), (74, 35597), (91, 35678),

Gene: Doobus_50 Start: 34197, Stop: 34595, Start Num: 54
Candidate Starts for Doobus_50:
(33, 34071), (Start: 54 @34197 has 43 MA's), (Start: 63 @34314 has 1 MA's), (70, 34374), (74, 34431), (77, 34446), (86, 34488),

Gene: Eden_51 Start: 34095, Stop: 34463, Start Num: 55
Candidate Starts for Eden_51:
(47, 34068), (49, 34083), (Start: 55 @34095 has 2 MA's), (70, 34266), (74, 34323), (77, 34338),

Gene: Elva_54 Start: 35701, Stop: 36096, Start Num: 54
Candidate Starts for Elva_54:
(6, 35338), (11, 35431), (Start: 54 @35701 has 43 MA's), (Start: 63 @35818 has 1 MA's), (70, 35878), (74, 35935), (77, 35950), (78, 35956), (84, 35983), (89, 36004),

Gene: Eula_52 Start: 34380, Stop: 34778, Start Num: 54
Candidate Starts for Eula_52:
(37, 34287), (38, 34293), (Start: 42 @34320 has 5 MA's), (Start: 54 @34380 has 43 MA's), (Start: 63 @34497 has 1 MA's), (70, 34557), (73, 34605), (74, 34614), (77, 34629), (91, 34698),

Gene: Finalfrontier_53 Start: 35430, Stop: 35888, Start Num: 42
Candidate Starts for Finalfrontier_53:
(Start: 42 @35430 has 5 MA's), (Start: 54 @35490 has 43 MA's), (65, 35613), (70, 35667), (74, 35724), (77, 35739), (86, 35781),

Gene: FlameThrower_49 Start: 35177, Stop: 35569, Start Num: 54
Candidate Starts for FlameThrower_49:
(Start: 54 @35177 has 43 MA's), (67, 35312), (70, 35342), (74, 35399), (89, 35468), (93, 35516),

Gene: Franklin22_51 Start: 33389, Stop: 33772, Start Num: 57
Candidate Starts for Franklin22_51:
(17, 33122), (22, 33137), (27, 33185), (40, 33296), (41, 33302), (50, 33374), (Start: 57 @33389 has 1 MA's), (64, 33497), (67, 33524), (72, 33587), (74, 33611), (91, 33692), (94, 33740), (95, 33764),

Gene: Gack_50 Start: 33692, Stop: 34081, Start Num: 55
Candidate Starts for Gack_50:
(44, 33632), (46, 33662), (47, 33665), (Start: 55 @33692 has 2 MA's), (59, 33710), (60, 33722), (61, 33779), (62, 33794), (65, 33806), (67, 33830), (74, 33917), (81, 33959),

Gene: Icarian_55 Start: 36309, Stop: 36695, Start Num: 54

Candidate Starts for Icarian_55:

(35, 36201), (Start: 42 @36246 has 5 MA's), (Start: 54 @36309 has 43 MA's), (Start: 63 @36426 has 1 MA's), (64, 36429), (69, 36474), (70, 36486), (72, 36519), (74, 36543), (76, 36552), (77, 36558), (84, 36591), (85, 36594), (89, 36612), (91, 36624),

Gene: IndyLu_52 Start: 34967, Stop: 35365, Start Num: 54

Candidate Starts for IndyLu_52:

(Start: 54 @34967 has 43 MA's), (Start: 63 @35084 has 1 MA's), (70, 35144), (73, 35192), (74, 35201), (77, 35216), (91, 35285),

Gene: Johnathan_51 Start: 34035, Stop: 34433, Start Num: 54

Candidate Starts for Johnathan_51:

(10, 33726), (18, 33810), (21, 33819), (26, 33861), (Start: 54 @34035 has 43 MA's), (Start: 63 @34152 has 1 MA's), (70, 34212), (74, 34269), (77, 34284), (86, 34326),

Gene: Jovita_51 Start: 34194, Stop: 34652, Start Num: 42

Candidate Starts for Jovita_51:

(37, 34161), (38, 34167), (Start: 42 @34194 has 5 MA's), (Start: 54 @34254 has 43 MA's), (Start: 63 @34371 has 1 MA's), (65, 34377), (70, 34431), (74, 34488), (77, 34503), (86, 34545),

Gene: Kate33_52 Start: 34684, Stop: 35082, Start Num: 54

Candidate Starts for Kate33_52:

(Start: 54 @34684 has 43 MA's), (Start: 63 @34801 has 1 MA's), (70, 34861), (73, 34909), (74, 34918), (91, 35002),

Gene: Katzastrophic_51 Start: 35687, Stop: 36079, Start Num: 54

Candidate Starts for Katzastrophic_51:

(7, 35306), (29, 35516), (Start: 54 @35687 has 43 MA's), (67, 35822), (70, 35852), (74, 35909), (93, 36026),

Gene: Kenzers_52 Start: 34514, Stop: 34912, Start Num: 54

Candidate Starts for Kenzers_52:

(Start: 54 @34514 has 43 MA's), (Start: 63 @34631 has 1 MA's), (70, 34691), (74, 34748), (77, 34763), (86, 34805),

Gene: Kieran_49 Start: 35404, Stop: 35799, Start Num: 54

Candidate Starts for Kieran_49:

(Start: 54 @35404 has 43 MA's), (Start: 63 @35521 has 1 MA's), (64, 35524), (65, 35527), (70, 35581), (74, 35638), (91, 35719),

Gene: Lahqtemish_51 Start: 34966, Stop: 35358, Start Num: 54

Candidate Starts for Lahqtemish_51:

(Start: 54 @34966 has 43 MA's), (Start: 63 @35083 has 1 MA's), (70, 35143), (74, 35200), (91, 35281),

Gene: LimaBean_52 Start: 34135, Stop: 34533, Start Num: 54

Candidate Starts for LimaBean_52:

(Start: 54 @34135 has 43 MA's), (Start: 63 @34252 has 1 MA's), (70, 34312), (74, 34369), (77, 34384), (86, 34426), (92, 34468),

Gene: Loviatar_92 Start: 36712, Stop: 37098, Start Num: 54

Candidate Starts for Loviatar_92:

(Start: 42 @36649 has 5 MA's), (Start: 54 @36712 has 43 MA's), (Start: 63 @36829 has 1 MA's), (64, 36832), (65, 36835), (70, 36889), (74, 36946), (76, 36955), (89, 37015),

Gene: Lynlen_53 Start: 34694, Stop: 35092, Start Num: 54

Candidate Starts for Lynlen_53:

(36, 34601), (Start: 54 @34694 has 43 MA's), (Start: 63 @34811 has 1 MA's), (70, 34871), (74, 34928), (77, 34943), (86, 34985),

Gene: Nicky22_53 Start: 35149, Stop: 35547, Start Num: 54

Candidate Starts for Nicky22_53:

(30, 34996), (Start: 54 @35149 has 43 MA's), (Start: 63 @35266 has 1 MA's), (70, 35326), (74, 35383), (77, 35398), (86, 35440),

Gene: Olliecat_44 Start: 31336, Stop: 31794, Start Num: 58

Candidate Starts for Olliecat_44:

(45, 31255), (50, 31303), (51, 31312), (53, 31318), (58, 31336), (70, 31495), (73, 31543), (74, 31552), (76, 31561), (77, 31567),

Gene: Phisb_52 Start: 34558, Stop: 35016, Start Num: 42

Candidate Starts for Phisb_52:

(34, 34495), (Start: 42 @34558 has 5 MA's), (Start: 54 @34618 has 43 MA's), (Start: 63 @34735 has 1 MA's), (65, 34741), (70, 34795), (74, 34852), (77, 34867), (86, 34909),

Gene: QMacho_54 Start: 35034, Stop: 35432, Start Num: 54

Candidate Starts for QMacho_54:

(37, 34941), (38, 34947), (Start: 54 @35034 has 43 MA's), (Start: 63 @35151 has 1 MA's), (70, 35211), (74, 35268), (77, 35283), (86, 35325),

Gene: Quenya_53 Start: 35819, Stop: 36211, Start Num: 54

Candidate Starts for Quenya_53:

(23, 35582), (Start: 54 @35819 has 43 MA's), (66, 35942), (67, 35954), (70, 35984), (74, 36041), (89, 36110),

Gene: Rollins_49 Start: 32810, Stop: 33220, Start Num: 48

Candidate Starts for Rollins_49:

(Start: 48 @32810 has 7 MA's), (71, 32996), (74, 33047), (75, 33050), (77, 33062),

Gene: Rona_49 Start: 35354, Stop: 35749, Start Num: 54

Candidate Starts for Rona_49:

(2, 34730), (3, 34742), (Start: 54 @35354 has 43 MA's), (Start: 63 @35471 has 1 MA's), (64, 35474), (65, 35477), (70, 35531), (74, 35588), (91, 35669),

Gene: SanaSana_54 Start: 36016, Stop: 36411, Start Num: 54

Candidate Starts for SanaSana_54:

(9, 35653), (13, 35728), (15, 35734), (20, 35794), (24, 35803), (Start: 42 @35953 has 5 MA's), (Start: 54 @36016 has 43 MA's), (Start: 63 @36133 has 1 MA's), (65, 36139), (70, 36193), (74, 36250), (76, 36259), (89, 36319),

Gene: SansAfet_53 Start: 34443, Stop: 34841, Start Num: 54

Candidate Starts for SansAfet_53:

(Start: 54 @34443 has 43 MA's), (Start: 63 @34560 has 1 MA's), (70, 34620), (74, 34677), (77, 34692), (86, 34734),

Gene: SarBear_52 Start: 34278, Stop: 34736, Start Num: 42

Candidate Starts for SarBear_52:

(Start: 42 @34278 has 5 MA's), (Start: 54 @34338 has 43 MA's), (Start: 63 @34455 has 1 MA's), (70, 34515), (74, 34572), (77, 34587), (86, 34629),

Gene: Sharkboy_50 Start: 35453, Stop: 35848, Start Num: 54

Candidate Starts for Sharkboy_50:

(2, 34829), (3, 34841), (Start: 54 @35453 has 43 MA's), (Start: 63 @35570 has 1 MA's), (64, 35573), (65, 35576), (70, 35630), (74, 35687), (91, 35768),

Gene: Shayna_51 Start: 33259, Stop: 33651, Start Num: 56

Candidate Starts for Shayna_51:

(Start: 56 @33259 has 1 MA's), (70, 33421), (73, 33469), (74, 33478), (83, 33529),

Gene: Skylord_49 Start: 32769, Stop: 33179, Start Num: 52

Candidate Starts for Skylord_49:

(17, 32505), (19, 32511), (22, 32520), (40, 32679), (50, 32757), (Start: 52 @32769 has 1 MA's), (71, 32955), (74, 33006), (75, 33009), (77, 33021),

Gene: Slay_52 Start: 35047, Stop: 35328, Start Num: 63

Candidate Starts for Slay_52:

(33, 34804), (Start: 54 @34930 has 43 MA's), (Start: 63 @35047 has 1 MA's), (65, 35053), (70, 35107), (74, 35164), (77, 35179), (86, 35221),

Gene: Stoor_52 Start: 35803, Stop: 36198, Start Num: 54

Candidate Starts for Stoor_52:

(Start: 42 @35740 has 5 MA's), (Start: 54 @35803 has 43 MA's), (Start: 63 @35920 has 1 MA's), (65, 35926), (70, 35980), (74, 36037), (76, 36046), (89, 36106),

Gene: Stromboli_52 Start: 35674, Stop: 36069, Start Num: 54

Candidate Starts for Stromboli_52:

(8, 35308), (9, 35311), (15, 35392), (20, 35452), (24, 35461), (Start: 42 @35611 has 5 MA's), (Start: 54 @35674 has 43 MA's), (Start: 63 @35791 has 1 MA's), (64, 35794), (65, 35797), (70, 35851), (74, 35908), (76, 35917), (89, 35977),

Gene: Swervy_53 Start: 34610, Stop: 35008, Start Num: 54

Candidate Starts for Swervy_53:

(Start: 42 @34550 has 5 MA's), (Start: 54 @34610 has 43 MA's), (Start: 63 @34727 has 1 MA's), (70, 34787), (74, 34844), (77, 34859), (86, 34901),

Gene: Teagster_53 Start: 33895, Stop: 34287, Start Num: 56

Candidate Starts for Teagster_53:

(43, 33814), (Start: 56 @33895 has 1 MA's), (70, 34057), (73, 34105), (74, 34114), (83, 34165),

Gene: TukTuk_53 Start: 34615, Stop: 35073, Start Num: 42

Candidate Starts for TukTuk_53:

(12, 34387), (25, 34471), (Start: 42 @34615 has 5 MA's), (Start: 54 @34675 has 43 MA's), (Start: 63 @34792 has 1 MA's), (65, 34798), (70, 34852), (74, 34909), (77, 34924), (86, 34966),

Gene: Vitas_49 Start: 32801, Stop: 33211, Start Num: 48

Candidate Starts for Vitas_49:

(Start: 48 @32801 has 7 MA's), (71, 32987), (74, 33038), (77, 33053),

Gene: WalkingDead_54 Start: 36540, Stop: 36818, Start Num: 63

Candidate Starts for WalkingDead_54:

(Start: 42 @36360 has 5 MA's), (Start: 54 @36423 has 43 MA's), (Start: 63 @36540 has 1 MA's), (64, 36543), (65, 36546), (68, 36579), (70, 36600), (74, 36657), (76, 36666), (89, 36726),