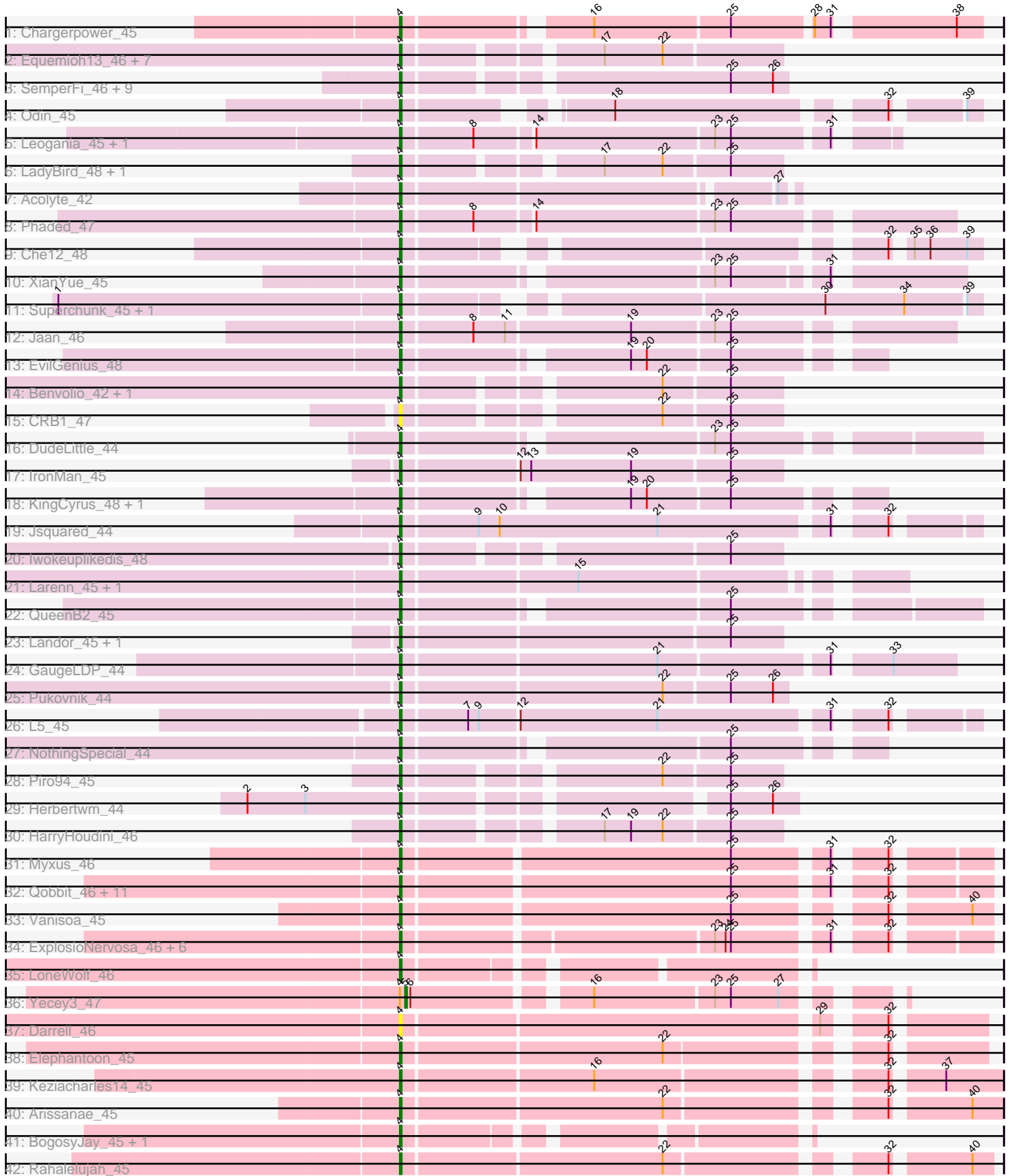


Pham 169909



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 169909 Report

This analysis was run 07/09/24 on database version 566.

Pham number 169909 has 83 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower_45
- Track 2 : Equemioh13_46, Centaur_46, Buggy_47, MiculUcigas_45, WideWale_46, NaSiaTalie_45, Updawg_46, Flare16_45
- Track 3 : SemperFi_46, Crucio_45, Anselm_46, Retro23_46, Dalmatian_46, FiringLine_45, Power_44, SnapTap_45, Georgie2_46, QueenBeesly_45
- Track 4 : Odin_45
- Track 5 : Leogania_45, BiancaTri92_45
- Track 6 : LadyBird_48, Baehexic_44
- Track 7 : Acolyte_42
- Track 8 : Phaded_47
- Track 9 : Che12_48
- Track 10 : XianYue_45
- Track 11 : Superchunk_45, Caraxes_46
- Track 12 : Jaan_46
- Track 13 : EvilGenius_48
- Track 14 : Benvolio_42, Echild_45
- Track 15 : CRB1_47
- Track 16 : DudeLittle_44
- Track 17 : IronMan_45
- Track 18 : KingCyrus_48, ChipMunk_48
- Track 19 : Jsquared_44
- Track 20 : Iwokeuplikedis_48
- Track 21 : Larenn_45, Malec_46
- Track 22 : QueenB2_45
- Track 23 : Landor_45, Bactobuster_44
- Track 24 : GaugeLDP_44
- Track 25 : Pukovnik_44
- Track 26 : L5_45
- Track 27 : NothingSpecial_44
- Track 28 : Piro94_45
- Track 29 : Herbertwm_44
- Track 30 : HarryHoudini_46
- Track 31 : Myxus_46
- Track 32 : Qobbit_46, Tubs_46, EmyBug_45, HortumSL17_46, Eidsmoe_46, Phaeder_46, Spouty_44, Aliter_46, Fayely_46, Catalina_47, PackMan_45, Priya_46
- Track 33 : Vanisoa_45

- Track 34 : ExplosioNervosa_46, Scherzo_46, Pioneer_46, Conquerage_46, Ugenie5_43, Beemo_46, Phonnegut_46
- Track 35 : LoneWolf_46
- Track 36 : Yecey3_47
- Track 37 : Darrell_46
- Track 38 : Elephantoon_45
- Track 39 : Keziacharles14_45
- Track 40 : Arissanae_45
- Track 41 : BogosyJay_45, Maminiaina_45
- Track 42 : Rahalelujah_45

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

The start number called the most often in the published annotations is 4, it was called in 77 of the 78 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acolyte_42, Aliter_46, Anselm_46, Arissanae_45, Bactobuster_44, Baehexic_44, Beemo_46, Benvolio_42, BiancaTri92_45, BogosyJay_45, Buggy_47, CRB1_47, Caraxes_46, Catalina_47, Centaur_46, Chargerpower_45, Che12_48, ChipMunk_48, Conquerage_46, Crucio_45, Dalmatian_46, Darrell_46, DudeLittle_44, Echild_45, Eidsmoe_46, Elephantoon_45, EmyBug_45, Equemioh13_46, EvilGenius_48, ExplosioNervosa_46, Fayely_46, FiringLine_45, Flare16_45, GaugeLDP_44, Georgie2_46, HarryHoudini_46, Herbertwm_44, HortumSL17_46, IronMan_45, Iwokeuplikedis_48, Jaan_46, Jsquared_44, Keziacharles14_45, KingCyrus_48, L5_45, LadyBird_48, Landor_45, Larenn_45, Leogania_45, LoneWolf_46, Malec_46, Maminiaina_45, MiculUcigas_45, Myxus_46, NaSiaTalie_45, NothingSpecial_44, Odin_45, PackMan_45, Phaded_47, Phaeder_46, Phonnegut_46, Pioneer_46, Piro94_45, Power_44, Priya_46, Pukovnik_44, Qobbit_46, QueenB2_45, QueenBeesly_45, Rahalelujah_45, Retro23_46, Scherzo_46, SemperFi_46, SnapTap_45, Spouty_44, Superchunk_45, Tubs_46, Ugenie5_43, Updawg_46, Vanisoa_45, WideWale_46, XianYue_45,

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

- Yecey3_47,

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

-

Summary by start number:

Start 4:

- Found in 83 of 83 (100.0%) of genes in pham
- Manual Annotations of this start: 77 of 78
- Called 98.8% of time when present
- Phage (with cluster) where this start called: Acolyte_42 (A2), Aliter_46 (A9), Anselm_46 (A2), Arissanae_45 (A9), Bactobuster_44 (A2), Baehexic_44 (A2), Beemo_46 (A9), Benvolio_42 (A2), BiancaTri92_45 (A2), BogosyJay_45 (A9), Buggy_47 (A2), CRB1_47 (A2), Caraxes_46 (A2), Catalina_47 (A9), Centaur_46 (A2), Chargerpower_45 (A), Che12_48 (A2), ChipMunk_48 (A2), Conquerage_46

(A9), Crucio_45 (A2), Dalmatian_46 (A2), Darrell_46 (A9), DudeLittle_44 (A2), Echild_45 (A2), Eidsmoe_46 (A9), Elephantoon_45 (A9), EmyBug_45 (A9), Equemioh13_46 (A2), EvilGenius_48 (A2), ExplosioNervosa_46 (A9), Fayely_46 (A9), FiringLine_45 (A2), Flare16_45 (A2), GaugeLDP_44 (A2), Georgie2_46 (A2), HarryHoudini_46 (A2), Herbertwm_44 (A2), HortumSL17_46 (A9), IronMan_45 (A2), Iwokeuplikedis_48 (A2), Jaan_46 (A2), Jsquared_44 (A2), Keziacharles14_45 (A9), KingCyrus_48 (A2), L5_45 (A2), LadyBird_48 (A2), Landor_45 (A2), Larenn_45 (A2), Leogania_45 (A2), LoneWolf_46 (A9), Malec_46 (A2), Maminiaina_45 (A9), MiculUcigas_45 (A2), Myxus_46 (A9), NaSiaTalie_45 (A2), NothingSpecial_44 (A2), Odin_45 (A2), PackMan_45 (A9), Phaded_47 (A2), Phaeder_46 (A9), Phonnegut_46 (A9), Pioneer_46 (A9), Piro94_45 (A2), Power_44 (A2), Priya_46 (A9), Pukovnik_44 (A2), Qobbit_46 (A9), QueenB2_45 (A2), QueenBeesly_45 (A2), Rahalelujah_45 (A9), Retro23_46 (A2), Scherzo_46 (A9), SemperFi_46 (A2), SnapTap_45 (A2), Spouty_44 (A9), Superchunk_45 (A2), Tubs_46 (A9), Ugenie5_43 (A9), Updawg_46 (A2), Vanisoa_45 (A9), WideWale_46 (A2), XianYue_45 (A2),

Start 5:

- Found in 1 of 83 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 78
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yecey3_47 (A9),

Summary by clusters:

There are 3 clusters represented in this pham: A9, A, A2,

Info for manual annotations of cluster A:

- Start number 4 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A2:

- Start number 4 was manually annotated 49 times for cluster A2.

Info for manual annotations of cluster A9:

- Start number 4 was manually annotated 27 times for cluster A9.
- Start number 5 was manually annotated 1 time for cluster A9.

Gene Information:

Gene: Acolyte_42 Start: 31182, Stop: 30976, Start Num: 4

Candidate Starts for Acolyte_42:

(Start: 4 @31182 has 77 MA's), (27, 30984),

Gene: Aliter_46 Start: 31711, Stop: 31415, Start Num: 4

Candidate Starts for Aliter_46:

(Start: 4 @31711 has 77 MA's), (25, 31531), (31, 31483), (32, 31462),

Gene: Anselm_46 Start: 31910, Stop: 31710, Start Num: 4

Candidate Starts for Anselm_46:

(Start: 4 @31910 has 77 MA's), (25, 31742), (26, 31718),

Gene: Arissanae_45 Start: 32350, Stop: 32045, Start Num: 4

Candidate Starts for Arissanae_45:
(Start: 4 @32350 has 77 MA's), (22, 32206), (32, 32101), (40, 32062),

Gene: Bactobuster_44 Start: 32495, Stop: 32286, Start Num: 4
Candidate Starts for Bactobuster_44:
(Start: 4 @32495 has 77 MA's), (25, 32315),

Gene: Baehexic_44 Start: 31684, Stop: 31490, Start Num: 4
Candidate Starts for Baehexic_44:
(Start: 4 @31684 has 77 MA's), (17, 31588), (22, 31555), (25, 31519),

Gene: Beemo_46 Start: 31833, Stop: 31543, Start Num: 4
Candidate Starts for Beemo_46:
(Start: 4 @31833 has 77 MA's), (23, 31668), (24, 31662), (25, 31659), (31, 31611), (32, 31590),

Gene: Benvolio_42 Start: 30956, Stop: 30762, Start Num: 4
Candidate Starts for Benvolio_42:
(Start: 4 @30956 has 77 MA's), (22, 30827), (25, 30791),

Gene: BiancaTri92_45 Start: 32306, Stop: 32052, Start Num: 4
Candidate Starts for BiancaTri92_45:
(Start: 4 @32306 has 77 MA's), (8, 32267), (14, 32237), (23, 32138), (25, 32129), (31, 32078),

Gene: BogosyJay_45 Start: 31543, Stop: 31346, Start Num: 4
Candidate Starts for BogosyJay_45:
(Start: 4 @31543 has 77 MA's),

Gene: Buggy_47 Start: 32054, Stop: 31860, Start Num: 4
Candidate Starts for Buggy_47:
(Start: 4 @32054 has 77 MA's), (17, 31958), (22, 31925),

Gene: CRB1_47 Start: 31980, Stop: 31786, Start Num: 4
Candidate Starts for CRB1_47:
(Start: 4 @31980 has 77 MA's), (22, 31851), (25, 31815),

Gene: Caraxes_46 Start: 30316, Stop: 30020, Start Num: 4
Candidate Starts for Caraxes_46:
(1, 30508), (Start: 4 @30316 has 77 MA's), (30, 30106), (34, 30061), (39, 30028),

Gene: Catalina_47 Start: 31784, Stop: 31488, Start Num: 4
Candidate Starts for Catalina_47:
(Start: 4 @31784 has 77 MA's), (25, 31604), (31, 31556), (32, 31535),

Gene: Centaur_46 Start: 31901, Stop: 31707, Start Num: 4
Candidate Starts for Centaur_46:
(Start: 4 @31901 has 77 MA's), (17, 31805), (22, 31772),

Gene: Chargerpower_45 Start: 30704, Stop: 30411, Start Num: 4
Candidate Starts for Chargerpower_45:
(Start: 4 @30704 has 77 MA's), (16, 30611), (25, 30536), (28, 30494), (31, 30485), (38, 30425),

Gene: Che12_48 Start: 30727, Stop: 30458, Start Num: 4
Candidate Starts for Che12_48:

(Start: 4 @30727 has 77 MA's), (32, 30502), (35, 30496), (36, 30487), (39, 30466),

Gene: ChipMunk_48 Start: 33451, Stop: 33212, Start Num: 4

Candidate Starts for ChipMunk_48:

(Start: 4 @33451 has 77 MA's), (19, 33337), (20, 33328), (25, 33283),

Gene: Conquerage_46 Start: 31807, Stop: 31517, Start Num: 4

Candidate Starts for Conquerage_46:

(Start: 4 @31807 has 77 MA's), (23, 31642), (24, 31636), (25, 31633), (31, 31585), (32, 31564),

Gene: Crucio_45 Start: 31494, Stop: 31294, Start Num: 4

Candidate Starts for Crucio_45:

(Start: 4 @31494 has 77 MA's), (25, 31326), (26, 31302),

Gene: Dalmatian_46 Start: 31886, Stop: 31686, Start Num: 4

Candidate Starts for Dalmatian_46:

(Start: 4 @31886 has 77 MA's), (25, 31718), (26, 31694),

Gene: Darrell_46 Start: 32153, Stop: 31854, Start Num: 4

Candidate Starts for Darrell_46:

(Start: 4 @32153 has 77 MA's), (29, 31928), (32, 31901),

Gene: DudeLittle_44 Start: 31643, Stop: 31353, Start Num: 4

Candidate Starts for DudeLittle_44:

(Start: 4 @31643 has 77 MA's), (23, 31484), (25, 31475),

Gene: Echild_45 Start: 30980, Stop: 30786, Start Num: 4

Candidate Starts for Echild_45:

(Start: 4 @30980 has 77 MA's), (22, 30851), (25, 30815),

Gene: Eidsmoe_46 Start: 31847, Stop: 31551, Start Num: 4

Candidate Starts for Eidsmoe_46:

(Start: 4 @31847 has 77 MA's), (25, 31667), (31, 31619), (32, 31598),

Gene: Elephantoon_45 Start: 31130, Stop: 30834, Start Num: 4

Candidate Starts for Elephantoon_45:

(Start: 4 @31130 has 77 MA's), (22, 30986), (32, 30881),

Gene: EmyBug_45 Start: 31849, Stop: 31553, Start Num: 4

Candidate Starts for EmyBug_45:

(Start: 4 @31849 has 77 MA's), (25, 31669), (31, 31621), (32, 31600),

Gene: Equemioh13_46 Start: 31803, Stop: 31609, Start Num: 4

Candidate Starts for Equemioh13_46:

(Start: 4 @31803 has 77 MA's), (17, 31707), (22, 31674),

Gene: EvilGenius_48 Start: 33455, Stop: 33216, Start Num: 4

Candidate Starts for EvilGenius_48:

(Start: 4 @33455 has 77 MA's), (19, 33341), (20, 33332), (25, 33287),

Gene: ExplosioNervosa_46 Start: 31867, Stop: 31577, Start Num: 4

Candidate Starts for ExplosioNervosa_46:

(Start: 4 @31867 has 77 MA's), (23, 31702), (24, 31696), (25, 31693), (31, 31645), (32, 31624),

Gene: Fayely_46 Start: 31816, Stop: 31520, Start Num: 4
Candidate Starts for Fayely_46:
(Start: 4 @31816 has 77 MA's), (25, 31636), (31, 31588), (32, 31567),

Gene: FiringLine_45 Start: 31475, Stop: 31275, Start Num: 4
Candidate Starts for FiringLine_45:
(Start: 4 @31475 has 77 MA's), (25, 31307), (26, 31283),

Gene: Flare16_45 Start: 31562, Stop: 31368, Start Num: 4
Candidate Starts for Flare16_45:
(Start: 4 @31562 has 77 MA's), (17, 31466), (22, 31433),

Gene: GaugeLDP_44 Start: 32036, Stop: 31746, Start Num: 4
Candidate Starts for GaugeLDP_44:
(Start: 4 @32036 has 77 MA's), (21, 31895), (31, 31805), (33, 31781),

Gene: Georgie2_46 Start: 31520, Stop: 31320, Start Num: 4
Candidate Starts for Georgie2_46:
(Start: 4 @31520 has 77 MA's), (25, 31352), (26, 31328),

Gene: HarryHoudini_46 Start: 32007, Stop: 31813, Start Num: 4
Candidate Starts for HarryHoudini_46:
(Start: 4 @32007 has 77 MA's), (17, 31911), (19, 31896), (22, 31878), (25, 31842),

Gene: Herbertwm_44 Start: 31136, Stop: 30939, Start Num: 4
Candidate Starts for Herbertwm_44:
(2, 31223), (3, 31190), (Start: 4 @31136 has 77 MA's), (25, 30977), (26, 30953),

Gene: HortumSL17_46 Start: 31783, Stop: 31487, Start Num: 4
Candidate Starts for HortumSL17_46:
(Start: 4 @31783 has 77 MA's), (25, 31603), (31, 31555), (32, 31534),

Gene: IronMan_45 Start: 32678, Stop: 32469, Start Num: 4
Candidate Starts for IronMan_45:
(Start: 4 @32678 has 77 MA's), (12, 32615), (13, 32609), (19, 32552), (25, 32498),

Gene: Iwokeuplikedis_48 Start: 31606, Stop: 31412, Start Num: 4
Candidate Starts for Iwokeuplikedis_48:
(Start: 4 @31606 has 77 MA's), (25, 31441),

Gene: Jaan_46 Start: 33047, Stop: 32757, Start Num: 4
Candidate Starts for Jaan_46:
(Start: 4 @33047 has 77 MA's), (8, 33008), (11, 32990), (19, 32921), (23, 32876), (25, 32867),

Gene: Jsquared_44 Start: 30618, Stop: 30322, Start Num: 4
Candidate Starts for Jsquared_44:
(Start: 4 @30618 has 77 MA's), (9, 30576), (10, 30564), (21, 30474), (31, 30384), (32, 30363),

Gene: Keziacharles14_45 Start: 32471, Stop: 32166, Start Num: 4
Candidate Starts for Keziacharles14_45:
(Start: 4 @32471 has 77 MA's), (16, 32366), (32, 32222), (37, 32198),

Gene: KingCyrus_48 Start: 33450, Stop: 33211, Start Num: 4
Candidate Starts for KingCyrus_48:
(Start: 4 @33450 has 77 MA's), (19, 33336), (20, 33327), (25, 33282),

Gene: L5_45 Start: 30779, Stop: 30486, Start Num: 4
Candidate Starts for L5_45:
(Start: 4 @30779 has 77 MA's), (7, 30743), (9, 30737), (12, 30716), (21, 30638), (31, 30548), (32, 30527),

Gene: LadyBird_48 Start: 31939, Stop: 31745, Start Num: 4
Candidate Starts for LadyBird_48:
(Start: 4 @31939 has 77 MA's), (17, 31843), (22, 31810), (25, 31774),

Gene: Landor_45 Start: 32756, Stop: 32547, Start Num: 4
Candidate Starts for Landor_45:
(Start: 4 @32756 has 77 MA's), (25, 32576),

Gene: Larenn_45 Start: 31865, Stop: 31608, Start Num: 4
Candidate Starts for Larenn_45:
(Start: 4 @31865 has 77 MA's), (15, 31769),

Gene: Leogania_45 Start: 32673, Stop: 32419, Start Num: 4
Candidate Starts for Leogania_45:
(Start: 4 @32673 has 77 MA's), (8, 32634), (14, 32604), (23, 32505), (25, 32496), (31, 32445),

Gene: LoneWolf_46 Start: 31502, Stop: 31302, Start Num: 4
Candidate Starts for LoneWolf_46:
(Start: 4 @31502 has 77 MA's),

Gene: Malec_46 Start: 32429, Stop: 32172, Start Num: 4
Candidate Starts for Malec_46:
(Start: 4 @32429 has 77 MA's), (15, 32333),

Gene: Maminiaina_45 Start: 31525, Stop: 31328, Start Num: 4
Candidate Starts for Maminiaina_45:
(Start: 4 @31525 has 77 MA's),

Gene: MiculUcigas_45 Start: 31462, Stop: 31268, Start Num: 4
Candidate Starts for MiculUcigas_45:
(Start: 4 @31462 has 77 MA's), (17, 31366), (22, 31333),

Gene: Myxus_46 Start: 31783, Stop: 31487, Start Num: 4
Candidate Starts for Myxus_46:
(Start: 4 @31783 has 77 MA's), (25, 31603), (31, 31555), (32, 31534),

Gene: NaSiaTalie_45 Start: 31559, Stop: 31365, Start Num: 4
Candidate Starts for NaSiaTalie_45:
(Start: 4 @31559 has 77 MA's), (17, 31463), (22, 31430),

Gene: NothingSpecial_44 Start: 32271, Stop: 32032, Start Num: 4
Candidate Starts for NothingSpecial_44:
(Start: 4 @32271 has 77 MA's), (25, 32103),

Gene: Odin_45 Start: 30465, Stop: 30196, Start Num: 4
Candidate Starts for Odin_45:
(Start: 4 @30465 has 77 MA's), (18, 30372), (32, 30237), (39, 30204),

Gene: PackMan_45 Start: 31783, Stop: 31487, Start Num: 4
Candidate Starts for PackMan_45:
(Start: 4 @31783 has 77 MA's), (25, 31603), (31, 31555), (32, 31534),

Gene: Phaded_47 Start: 32920, Stop: 32633, Start Num: 4
Candidate Starts for Phaded_47:
(Start: 4 @32920 has 77 MA's), (8, 32881), (14, 32851), (23, 32752), (25, 32743),

Gene: Phaeder_46 Start: 31783, Stop: 31487, Start Num: 4
Candidate Starts for Phaeder_46:
(Start: 4 @31783 has 77 MA's), (25, 31603), (31, 31555), (32, 31534),

Gene: Phonnegut_46 Start: 31832, Stop: 31542, Start Num: 4
Candidate Starts for Phonnegut_46:
(Start: 4 @31832 has 77 MA's), (23, 31667), (24, 31661), (25, 31658), (31, 31610), (32, 31589),

Gene: Pioneer_46 Start: 31832, Stop: 31542, Start Num: 4
Candidate Starts for Pioneer_46:
(Start: 4 @31832 has 77 MA's), (23, 31667), (24, 31661), (25, 31658), (31, 31610), (32, 31589),

Gene: Piro94_45 Start: 31924, Stop: 31730, Start Num: 4
Candidate Starts for Piro94_45:
(Start: 4 @31924 has 77 MA's), (22, 31795), (25, 31759),

Gene: Power_44 Start: 31528, Stop: 31328, Start Num: 4
Candidate Starts for Power_44:
(Start: 4 @31528 has 77 MA's), (25, 31360), (26, 31336),

Gene: Priya_46 Start: 31850, Stop: 31554, Start Num: 4
Candidate Starts for Priya_46:
(Start: 4 @31850 has 77 MA's), (25, 31670), (31, 31622), (32, 31601),

Gene: Pukovnik_44 Start: 32346, Stop: 32134, Start Num: 4
Candidate Starts for Pukovnik_44:
(Start: 4 @32346 has 77 MA's), (22, 32202), (25, 32166), (26, 32142),

Gene: Qobbit_46 Start: 31812, Stop: 31516, Start Num: 4
Candidate Starts for Qobbit_46:
(Start: 4 @31812 has 77 MA's), (25, 31632), (31, 31584), (32, 31563),

Gene: QueenB2_45 Start: 31688, Stop: 31398, Start Num: 4
Candidate Starts for QueenB2_45:
(Start: 4 @31688 has 77 MA's), (25, 31520),

Gene: QueenBeesly_45 Start: 31475, Stop: 31275, Start Num: 4
Candidate Starts for QueenBeesly_45:
(Start: 4 @31475 has 77 MA's), (25, 31307), (26, 31283),

Gene: Rahalelujah_45 Start: 31040, Stop: 30741, Start Num: 4

Candidate Starts for Rahalelujah_45:
(Start: 4 @31040 has 77 MA's), (22, 30896), (32, 30791), (40, 30752),

Gene: Retro23_46 Start: 31882, Stop: 31682, Start Num: 4
Candidate Starts for Retro23_46:
(Start: 4 @31882 has 77 MA's), (25, 31714), (26, 31690),

Gene: Scherzo_46 Start: 32021, Stop: 31731, Start Num: 4
Candidate Starts for Scherzo_46:
(Start: 4 @32021 has 77 MA's), (23, 31856), (24, 31850), (25, 31847), (31, 31799), (32, 31778),

Gene: SemperFi_46 Start: 31743, Stop: 31543, Start Num: 4
Candidate Starts for SemperFi_46:
(Start: 4 @31743 has 77 MA's), (25, 31575), (26, 31551),

Gene: SnapTap_45 Start: 31554, Stop: 31354, Start Num: 4
Candidate Starts for SnapTap_45:
(Start: 4 @31554 has 77 MA's), (25, 31386), (26, 31362),

Gene: Spouty_44 Start: 31849, Stop: 31553, Start Num: 4
Candidate Starts for Spouty_44:
(Start: 4 @31849 has 77 MA's), (25, 31669), (31, 31621), (32, 31600),

Gene: Superchunk_45 Start: 30316, Stop: 30020, Start Num: 4
Candidate Starts for Superchunk_45:
(1, 30508), (Start: 4 @30316 has 77 MA's), (30, 30106), (34, 30061), (39, 30028),

Gene: Tubs_46 Start: 31783, Stop: 31487, Start Num: 4
Candidate Starts for Tubs_46:
(Start: 4 @31783 has 77 MA's), (25, 31603), (31, 31555), (32, 31534),

Gene: Ugenie5_43 Start: 32020, Stop: 31730, Start Num: 4
Candidate Starts for Ugenie5_43:
(Start: 4 @32020 has 77 MA's), (23, 31855), (24, 31849), (25, 31846), (31, 31798), (32, 31777),

Gene: Updawg_46 Start: 31803, Stop: 31609, Start Num: 4
Candidate Starts for Updawg_46:
(Start: 4 @31803 has 77 MA's), (17, 31707), (22, 31674),

Gene: Vanisoa_45 Start: 32358, Stop: 32059, Start Num: 4
Candidate Starts for Vanisoa_45:
(Start: 4 @32358 has 77 MA's), (25, 32178), (32, 32109), (40, 32070),

Gene: WideWale_46 Start: 31803, Stop: 31609, Start Num: 4
Candidate Starts for WideWale_46:
(Start: 4 @31803 has 77 MA's), (17, 31707), (22, 31674),

Gene: XianYue_45 Start: 31548, Stop: 31267, Start Num: 4
Candidate Starts for XianYue_45:
(Start: 4 @31548 has 77 MA's), (23, 31389), (25, 31380), (31, 31332),

Gene: Yecey3_47 Start: 31235, Stop: 30996, Start Num: 5
Candidate Starts for Yecey3_47:

(Start: 4 @31238 has 77 MA's), (Start: 5 @31235 has 1 MA's), (6, 31232), (16, 31142), (23, 31076),
(25, 31067), (27, 31040),