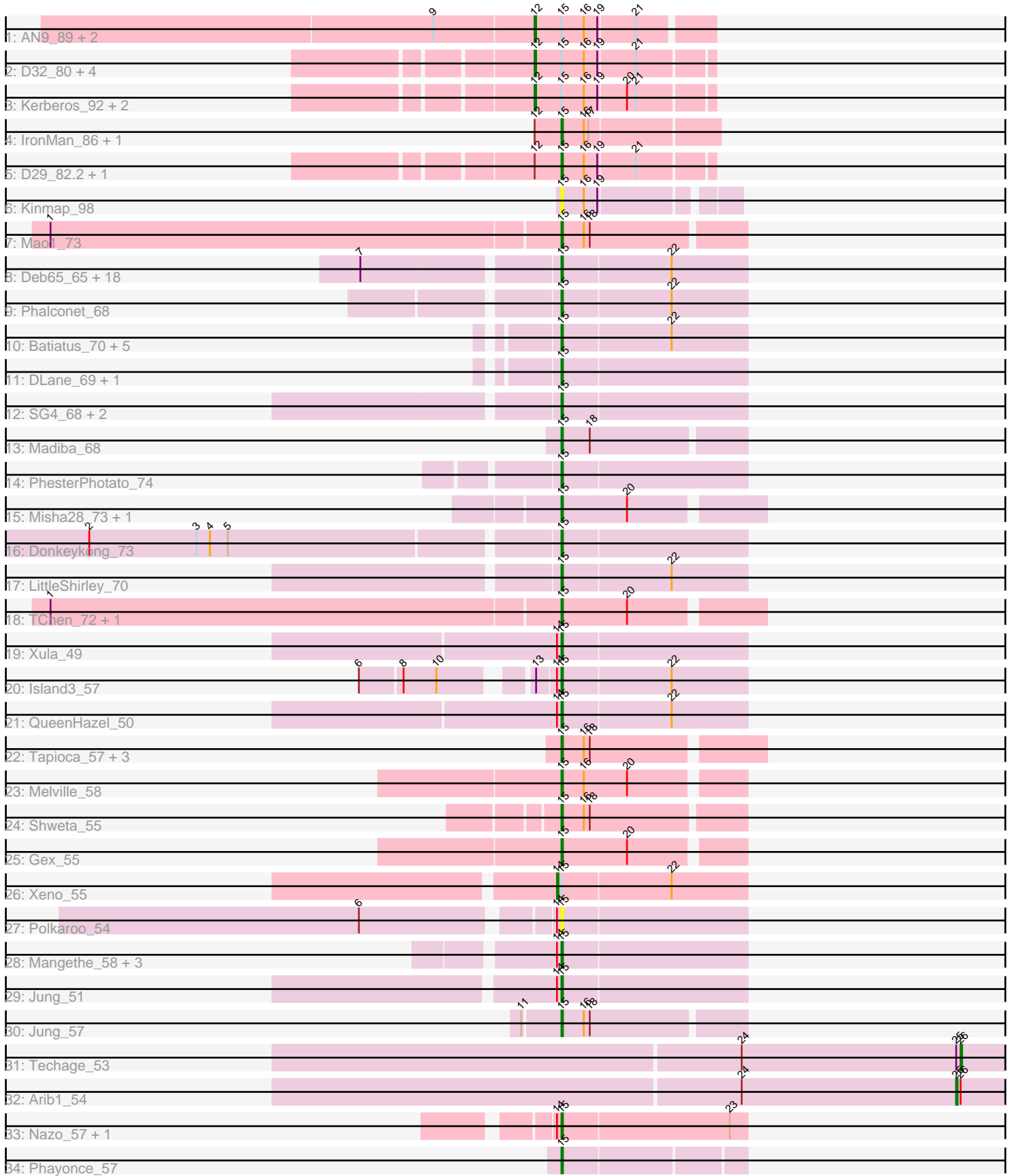


Pham 196478



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 196478 Report

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

Pham number 196478 has 79 members, 4 are drafts.

Phages represented in each track:

- Track 1 : AN9_89, VC3_88, ANI8_89
- Track 2 : D32_80, Travvers_92, Tomathan_92, Naji_81, DBQu4n_92
- Track 3 : Kerberos_92, StarStuff_92, Pomar16_92
- Track 4 : IronMan_86, Bactobuster_81
- Track 5 : D29_82.2, Duplo_93
- Track 6 : Kinmap_98
- Track 7 : Mao1_73
- Track 8 : Deb65_65, Dorothy_73, Geralt_65, JoeyJr_72, Daenerys_71, PHappiness_72, Inventum_70, Empress_70, RedBird_73, RitaG_72, Doomphist_75, Poenanya_75, Scottish_70, Sassafras_73, Polka14_76, Leperchaun_70, OldBen_69, KingMidas_71, Nimbo_64
- Track 9 : Phalconet_68
- Track 10 : Batiatus_70, Ovechkin_74, Kingsley_75, Babsiella_59, Quico_81, Florinda_84
- Track 11 : DLane_69, Ms6_70
- Track 12 : SG4_68, Hegedechwinu_71, StAnnes_69
- Track 13 : Madiba_68
- Track 14 : PhesterPhotato_74
- Track 15 : Misha28_73, TootsiePop_73
- Track 16 : Donkeykong_73
- Track 17 : LittleShirley_70
- Track 18 : TChen_72, LunaStella_70
- Track 19 : Xula_49
- Track 20 : Island3_57
- Track 21 : QueenHazel_50
- Track 22 : Tapioca_57, Andies_53, BuzzLyseyear_73, BodEinwohner17_71
- Track 23 : Melville_58
- Track 24 : Shweta_55
- Track 25 : Gex_55
- Track 26 : Xen0_55
- Track 27 : Polkaroo_54
- Track 28 : Mangethe_58, Zilizebeth_58, Majeke_58, Phegasus_58
- Track 29 : Jung_51
- Track 30 : Jung_57
- Track 31 : Techage_53
- Track 32 : Arib1_54
- Track 33 : Nazo_57, BigNuz_56

- Track 34 : Phayonce_57

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

The start number called the most often in the published annotations is 15, it was called in 62 of the 75 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Andies_53, Babsiella_59, Bactobuster_81, Batiatus_70, BigNuz_56, BodEinwohner17_71, BuzzLyseyear_73, D29_82.2, DLane_69, Daenerys_71, Deb65_65, Donkeykong_73, Doomphist_75, Dorothy_73, Duplo_93, Empress_70, Florinda_84, Geralt_65, Gex_55, Hegedechwinu_71, Inventum_70, IronMan_86, Island3_57, JoeyJr_72, Jung_51, Jung_57, KingMidas_71, Kingsley_75, Kinmap_98, Leperchaun_70, LittleShirley_70, LunaStella_70, Madiba_68, Majeke_58, Mangethe_58, Mao1_73, Melville_58, Misha28_73, Ms6_70, Nazo_57, Nimbo_64, OldBen_69, Ovechkin_74, PHappiness_72, Phalconet_68, Phayonce_57, Phegasus_58, PhesterPhotato_74, Poenanya_75, Polka14_76, Polkaroo_54, QueenHazel_50, Quico_81, RedBird_73, RitaG_72, SG4_68, Sassafras_73, Scottish_70, Shweta_55, StAnnes_69, TChen_72, Tapioca_57, TootsiePop_73, Xula_49, Zilizebeth_58,

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

- AN9_89, ANI8_89, D32_80, DBQu4n_92, Kerberos_92, Naji_81, Pomar16_92, StarStuff_92, Tomathan_92, Travvers_92, VC3_88, Xeno_55,

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

- Arib1_54, Techage_53,

Summary by start number:

Start 12:

- Found in 15 of 79 (19.0%) of genes in pham
- Manual Annotations of this start: 10 of 75
- Called 73.3% of time when present
- Phage (with cluster) where this start called: AN9_89 (A2), ANI8_89 (A2), D32_80 (A2), DBQu4n_92 (A2), Kerberos_92 (A2), Naji_81 (A2), Pomar16_92 (A2), StarStuff_92 (A2), Tomathan_92 (A2), Travvers_92 (A2), VC3_88 (A2),

Start 14:

- Found in 12 of 79 (15.2%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Xeno_55 (N),

Start 15:

- Found in 77 of 79 (97.5%) of genes in pham
- Manual Annotations of this start: 62 of 75
- Called 84.4% of time when present
- Phage (with cluster) where this start called: Andies_53 (N), Babsiella_59 (I1), Bactobuster_81 (A2), Batiatus_70 (F1), BigNuz_56 (P4), BodEinwohner17_71 (F1),

BuzzLyseyear_73 (F1), D29_82.2 (A2), DLane_69 (F1), Daenerys_71 (F1), Deb65_65 (F1), Donkeykong_73 (F1), Doomphist_75 (F1), Dorothy_73 (F1), Duplo_93 (A2), Empress_70 (F1), Florinda_84 (F1), Geralt_65 (F1), Gex_55 (N), Hegedechwinu_71 (F1), Inventum_70 (F1), IronMan_86 (A2), Island3_57 (I1), JoeyJr_72 (F1), Jung_51 (P1), Jung_57 (P1), KingMidas_71 (F1), Kingsley_75 (F1), Kinmap_98 (A21), Leperchaun_70 (F1), LittleShirley_70 (F1), LunaStella_70 (F4), Madiba_68 (F1), Majeke_58 (P1), Mangethe_58 (P1), Mao1_73 (AD), Melville_58 (N), Misha28_73 (F1), Ms6_70 (F1), Nazo_57 (P4), Nimbo_64 (F1), OldBen_69 (F1), Ovechkin_74 (F1), PHappiness_72 (F1), Phalconet_68 (F1), Phayonce_57 (P5), Phegasus_58 (P1), PhesterPhotato_74 (F1), Poenanya_75 (F1), Polka14_76 (F1), Polkaroo_54 (P1), QueenHazel_50 (I1), Quico_81 (F1), RedBird_73 (F1), RitaG_72 (F1), SG4_68 (F1), Sassafras_73 (F1), Scottish_70 (F1), Shweta_55 (N), StAnnes_69 (F1), TChen_72 (F4), Tapioca_57 (N), TootsiePop_73 (F1), Xula_49 (I1), Zilizebeth_58 (P1),

Start 25:

- Found in 2 of 79 (2.5%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Arib1_54 (P1),

Start 26:

- Found in 2 of 79 (2.5%) of genes in pham
- Manual Annotations of this start: 1 of 75
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Techage_53 (P1),

Summary by clusters:

There are 10 clusters represented in this pham: F1, P1, F4, AD, P4, P5, I1, N, A2, A21,

Info for manual annotations of cluster A2:

- Start number 12 was manually annotated 10 times for cluster A2.
- Start number 15 was manually annotated 4 times for cluster A2.

Info for manual annotations of cluster AD:

- Start number 15 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster F1:

- Start number 15 was manually annotated 37 times for cluster F1.

Info for manual annotations of cluster F4:

- Start number 15 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster I1:

- Start number 15 was manually annotated 4 times for cluster I1.

Info for manual annotations of cluster N:

- Start number 14 was manually annotated 1 time for cluster N.
- Start number 15 was manually annotated 5 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 15 was manually annotated 6 times for cluster P1.
- Start number 25 was manually annotated 1 time for cluster P1.
- Start number 26 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster P4:

- Start number 15 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 15 was manually annotated 1 time for cluster P5.

Gene Information:

Gene: AN9_89 Start: 48160, Stop: 48047, Start Num: 12

Candidate Starts for AN9_89:

(9, 48226), (Start: 12 @48160 has 10 MA's), (Start: 15 @48142 has 62 MA's), (16, 48127), (19, 48118), (21, 48094),

Gene: ANI8_89 Start: 48160, Stop: 48047, Start Num: 12

Candidate Starts for ANI8_89:

(9, 48226), (Start: 12 @48160 has 10 MA's), (Start: 15 @48142 has 62 MA's), (16, 48127), (19, 48118), (21, 48094),

Gene: Andies_53 Start: 38224, Stop: 38349, Start Num: 15

Candidate Starts for Andies_53:

(Start: 15 @38224 has 62 MA's), (16, 38239), (18, 38242),

Gene: Arib1_54 Start: 36196, Stop: 36321, Start Num: 25

Candidate Starts for Arib1_54:

(24, 36052), (Start: 25 @36196 has 1 MA's), (Start: 26 @36199 has 1 MA's),

Gene: Babsiella_59 Start: 39433, Stop: 39555, Start Num: 15

Candidate Starts for Babsiella_59:

(Start: 15 @39433 has 62 MA's), (22, 39505),

Gene: Bactobuster_81 Start: 48864, Stop: 48763, Start Num: 15

Candidate Starts for Bactobuster_81:

(Start: 12 @48882 has 10 MA's), (Start: 15 @48864 has 62 MA's), (16, 48849), (17, 48846),

Gene: Batiatus_70 Start: 44968, Stop: 45090, Start Num: 15

Candidate Starts for Batiatus_70:

(Start: 15 @44968 has 62 MA's), (22, 45040),

Gene: BigNuz_56 Start: 39756, Stop: 39878, Start Num: 15

Candidate Starts for BigNuz_56:

(Start: 14 @39753 has 1 MA's), (Start: 15 @39756 has 62 MA's), (23, 39867),

Gene: BodEinwohner17_71 Start: 45997, Stop: 46113, Start Num: 15

Candidate Starts for BodEinwohner17_71:

(Start: 15 @45997 has 62 MA's), (16, 46012), (18, 46015),

Gene: BuzzLyseyear_73 Start: 47467, Stop: 47583, Start Num: 15
Candidate Starts for BuzzLyseyear_73:
(Start: 15 @47467 has 62 MA's), (16, 47482), (18, 47485),

Gene: D29_82.2 Start: 46114, Stop: 46019, Start Num: 15
Candidate Starts for D29_82.2:
(Start: 12 @46132 has 10 MA's), (Start: 15 @46114 has 62 MA's), (16, 46099), (19, 46090), (21, 46066),

Gene: D32_80 Start: 46132, Stop: 46019, Start Num: 12
Candidate Starts for D32_80:
(Start: 12 @46132 has 10 MA's), (Start: 15 @46114 has 62 MA's), (16, 46099), (19, 46090), (21, 46066),

Gene: DBQu4n_92 Start: 49747, Stop: 49634, Start Num: 12
Candidate Starts for DBQu4n_92:
(Start: 12 @49747 has 10 MA's), (Start: 15 @49729 has 62 MA's), (16, 49714), (19, 49705), (21, 49681),

Gene: DLane_69 Start: 44902, Stop: 45024, Start Num: 15
Candidate Starts for DLane_69:
(Start: 15 @44902 has 62 MA's),

Gene: Daenerys_71 Start: 46948, Stop: 47070, Start Num: 15
Candidate Starts for Daenerys_71:
(7, 46825), (Start: 15 @46948 has 62 MA's), (22, 47020),

Gene: Deb65_65 Start: 44669, Stop: 44791, Start Num: 15
Candidate Starts for Deb65_65:
(7, 44546), (Start: 15 @44669 has 62 MA's), (22, 44741),

Gene: Donkeykong_73 Start: 46520, Stop: 46642, Start Num: 15
Candidate Starts for Donkeykong_73:
(2, 46217), (3, 46289), (4, 46298), (5, 46310), (Start: 15 @46520 has 62 MA's),

Gene: Doomphist_75 Start: 46761, Stop: 46883, Start Num: 15
Candidate Starts for Doomphist_75:
(7, 46638), (Start: 15 @46761 has 62 MA's), (22, 46833),

Gene: Dorothy_73 Start: 45386, Stop: 45508, Start Num: 15
Candidate Starts for Dorothy_73:
(7, 45263), (Start: 15 @45386 has 62 MA's), (22, 45458),

Gene: Duplo_93 Start: 49786, Stop: 49691, Start Num: 15
Candidate Starts for Duplo_93:
(Start: 12 @49804 has 10 MA's), (Start: 15 @49786 has 62 MA's), (16, 49771), (19, 49762), (21, 49738),

Gene: Empress_70 Start: 45572, Stop: 45694, Start Num: 15
Candidate Starts for Empress_70:
(7, 45449), (Start: 15 @45572 has 62 MA's), (22, 45644),

Gene: Florinda_84 Start: 47608, Stop: 47730, Start Num: 15

Candidate Starts for Florinda_84:
(Start: 15 @47608 has 62 MA's), (22, 47680),

Gene: Geralt_65 Start: 44668, Stop: 44790, Start Num: 15
Candidate Starts for Geralt_65:
(7, 44545), (Start: 15 @44668 has 62 MA's), (22, 44740),

Gene: Gex_55 Start: 36173, Stop: 36286, Start Num: 15
Candidate Starts for Gex_55:
(Start: 15 @36173 has 62 MA's), (20, 36215),

Gene: Hegedechwinu_71 Start: 42986, Stop: 43108, Start Num: 15
Candidate Starts for Hegedechwinu_71:
(Start: 15 @42986 has 62 MA's),

Gene: Inventum_70 Start: 45584, Stop: 45706, Start Num: 15
Candidate Starts for Inventum_70:
(7, 45461), (Start: 15 @45584 has 62 MA's), (22, 45656),

Gene: IronMan_86 Start: 50377, Stop: 50276, Start Num: 15
Candidate Starts for IronMan_86:
(Start: 12 @50395 has 10 MA's), (Start: 15 @50377 has 62 MA's), (16, 50362), (17, 50359),

Gene: Island3_57 Start: 38289, Stop: 38411, Start Num: 15
Candidate Starts for Island3_57:
(6, 38178), (8, 38205), (10, 38226), (13, 38274), (Start: 14 @38286 has 1 MA's), (Start: 15 @38289 has 62 MA's), (22, 38361),

Gene: JoeyJr_72 Start: 46573, Stop: 46695, Start Num: 15
Candidate Starts for JoeyJr_72:
(7, 46450), (Start: 15 @46573 has 62 MA's), (22, 46645),

Gene: Jung_51 Start: 35878, Stop: 36000, Start Num: 15
Candidate Starts for Jung_51:
(Start: 14 @35875 has 1 MA's), (Start: 15 @35878 has 62 MA's),

Gene: Jung_57 Start: 38107, Stop: 38223, Start Num: 15
Candidate Starts for Jung_57:
(11, 38083), (Start: 15 @38107 has 62 MA's), (16, 38122), (18, 38125),

Gene: Kerberos_92 Start: 49767, Stop: 49654, Start Num: 12
Candidate Starts for Kerberos_92:
(Start: 12 @49767 has 10 MA's), (Start: 15 @49749 has 62 MA's), (16, 49734), (19, 49725), (20, 49707), (21, 49701),

Gene: KingMidas_71 Start: 45987, Stop: 46109, Start Num: 15
Candidate Starts for KingMidas_71:
(7, 45864), (Start: 15 @45987 has 62 MA's), (22, 46059),

Gene: Kingsley_75 Start: 48363, Stop: 48485, Start Num: 15
Candidate Starts for Kingsley_75:
(Start: 15 @48363 has 62 MA's), (22, 48435),

Gene: Kinmap_98 Start: 49864, Stop: 49757, Start Num: 15
Candidate Starts for Kinmap_98:
(Start: 15 @49864 has 62 MA's), (16, 49849), (19, 49840),

Gene: Leperchaun_70 Start: 45807, Stop: 45929, Start Num: 15
Candidate Starts for Leperchaun_70:
(7, 45684), (Start: 15 @45807 has 62 MA's), (22, 45879),

Gene: LittleShirley_70 Start: 44567, Stop: 44689, Start Num: 15
Candidate Starts for LittleShirley_70:
(Start: 15 @44567 has 62 MA's), (22, 44639),

Gene: LunaStella_70 Start: 45241, Stop: 45366, Start Num: 15
Candidate Starts for LunaStella_70:
(1, 44905), (Start: 15 @45241 has 62 MA's), (20, 45283),

Gene: Madiba_68 Start: 44600, Stop: 44716, Start Num: 15
Candidate Starts for Madiba_68:
(Start: 15 @44600 has 62 MA's), (18, 44618),

Gene: Majeke_58 Start: 37716, Stop: 37838, Start Num: 15
Candidate Starts for Majeke_58:
(Start: 14 @37713 has 1 MA's), (Start: 15 @37716 has 62 MA's),

Gene: Mangethe_58 Start: 37716, Stop: 37838, Start Num: 15
Candidate Starts for Mangethe_58:
(Start: 14 @37713 has 1 MA's), (Start: 15 @37716 has 62 MA's),

Gene: Mao1_73 Start: 53391, Stop: 53507, Start Num: 15
Candidate Starts for Mao1_73:
(1, 53055), (Start: 15 @53391 has 62 MA's), (16, 53406), (18, 53409),

Gene: Melville_58 Start: 36158, Stop: 36271, Start Num: 15
Candidate Starts for Melville_58:
(Start: 15 @36158 has 62 MA's), (16, 36173), (20, 36200),

Gene: Misha28_73 Start: 45868, Stop: 45993, Start Num: 15
Candidate Starts for Misha28_73:
(Start: 15 @45868 has 62 MA's), (20, 45910),

Gene: Ms6_70 Start: 41131, Stop: 41253, Start Num: 15
Candidate Starts for Ms6_70:
(Start: 15 @41131 has 62 MA's),

Gene: Naji_81 Start: 46132, Stop: 46019, Start Num: 12
Candidate Starts for Naji_81:
(Start: 12 @46132 has 10 MA's), (Start: 15 @46114 has 62 MA's), (16, 46099), (19, 46090), (21, 46066),

Gene: Nazo_57 Start: 39956, Stop: 40078, Start Num: 15
Candidate Starts for Nazo_57:
(Start: 14 @39953 has 1 MA's), (Start: 15 @39956 has 62 MA's), (23, 40067),

Gene: Nimbo_64 Start: 44671, Stop: 44793, Start Num: 15
Candidate Starts for Nimbo_64:
(7, 44548), (Start: 15 @44671 has 62 MA's), (22, 44743),

Gene: OldBen_69 Start: 46063, Stop: 46185, Start Num: 15
Candidate Starts for OldBen_69:
(7, 45940), (Start: 15 @46063 has 62 MA's), (22, 46135),

Gene: Ovechkin_74 Start: 46191, Stop: 46313, Start Num: 15
Candidate Starts for Ovechkin_74:
(Start: 15 @46191 has 62 MA's), (22, 46263),

Gene: PHappiness_72 Start: 46892, Stop: 47014, Start Num: 15
Candidate Starts for PHappiness_72:
(7, 46769), (Start: 15 @46892 has 62 MA's), (22, 46964),

Gene: Phalconet_68 Start: 43304, Stop: 43426, Start Num: 15
Candidate Starts for Phalconet_68:
(Start: 15 @43304 has 62 MA's), (22, 43376),

Gene: Phayonce_57 Start: 40353, Stop: 40469, Start Num: 15
Candidate Starts for Phayonce_57:
(Start: 15 @40353 has 62 MA's),

Gene: Phegasus_58 Start: 37683, Stop: 37805, Start Num: 15
Candidate Starts for Phegasus_58:
(Start: 14 @37680 has 1 MA's), (Start: 15 @37683 has 62 MA's),

Gene: PhesterPhotato_74 Start: 45630, Stop: 45752, Start Num: 15
Candidate Starts for PhesterPhotato_74:
(Start: 15 @45630 has 62 MA's),

Gene: Poenanya_75 Start: 46761, Stop: 46883, Start Num: 15
Candidate Starts for Poenanya_75:
(7, 46638), (Start: 15 @46761 has 62 MA's), (22, 46833),

Gene: Polka14_76 Start: 47551, Stop: 47673, Start Num: 15
Candidate Starts for Polka14_76:
(7, 47428), (Start: 15 @47551 has 62 MA's), (22, 47623),

Gene: Polkaroo_54 Start: 37256, Stop: 37378, Start Num: 15
Candidate Starts for Polkaroo_54:
(6, 37136), (Start: 14 @37253 has 1 MA's), (Start: 15 @37256 has 62 MA's),

Gene: Pomar16_92 Start: 49840, Stop: 49727, Start Num: 12
Candidate Starts for Pomar16_92:
(Start: 12 @49840 has 10 MA's), (Start: 15 @49822 has 62 MA's), (16, 49807), (19, 49798), (20, 49780), (21, 49774),

Gene: QueenHazel_50 Start: 36087, Stop: 36209, Start Num: 15
Candidate Starts for QueenHazel_50:
(Start: 14 @36084 has 1 MA's), (Start: 15 @36087 has 62 MA's), (22, 36159),

Gene: Quico_81 Start: 47428, Stop: 47550, Start Num: 15
Candidate Starts for Quico_81:
(Start: 15 @47428 has 62 MA's), (22, 47500),

Gene: RedBird_73 Start: 45253, Stop: 45375, Start Num: 15
Candidate Starts for RedBird_73:
(7, 45130), (Start: 15 @45253 has 62 MA's), (22, 45325),

Gene: RitaG_72 Start: 46694, Stop: 46816, Start Num: 15
Candidate Starts for RitaG_72:
(7, 46571), (Start: 15 @46694 has 62 MA's), (22, 46766),

Gene: SG4_68 Start: 43359, Stop: 43481, Start Num: 15
Candidate Starts for SG4_68:
(Start: 15 @43359 has 62 MA's),

Gene: Sassafras_73 Start: 45583, Stop: 45705, Start Num: 15
Candidate Starts for Sassafras_73:
(7, 45460), (Start: 15 @45583 has 62 MA's), (22, 45655),

Gene: Scottish_70 Start: 45242, Stop: 45364, Start Num: 15
Candidate Starts for Scottish_70:
(7, 45119), (Start: 15 @45242 has 62 MA's), (22, 45314),

Gene: Shweta_55 Start: 36817, Stop: 36933, Start Num: 15
Candidate Starts for Shweta_55:
(Start: 15 @36817 has 62 MA's), (16, 36832), (18, 36835),

Gene: StAnnes_69 Start: 44436, Stop: 44558, Start Num: 15
Candidate Starts for StAnnes_69:
(Start: 15 @44436 has 62 MA's),

Gene: StarStuff_92 Start: 49802, Stop: 49689, Start Num: 12
Candidate Starts for StarStuff_92:
(Start: 12 @49802 has 10 MA's), (Start: 15 @49784 has 62 MA's), (16, 49769), (19, 49760), (20, 49742), (21, 49736),

Gene: TChen_72 Start: 47192, Stop: 47317, Start Num: 15
Candidate Starts for TChen_72:
(1, 46856), (Start: 15 @47192 has 62 MA's), (20, 47234),

Gene: Tapioca_57 Start: 38663, Stop: 38788, Start Num: 15
Candidate Starts for Tapioca_57:
(Start: 15 @38663 has 62 MA's), (16, 38678), (18, 38681),

Gene: Techage_53 Start: 36249, Stop: 36371, Start Num: 26
Candidate Starts for Techage_53:
(24, 36102), (Start: 25 @36246 has 1 MA's), (Start: 26 @36249 has 1 MA's),

Gene: Tomathan_92 Start: 49881, Stop: 49768, Start Num: 12
Candidate Starts for Tomathan_92:
(Start: 12 @49881 has 10 MA's), (Start: 15 @49863 has 62 MA's), (16, 49848), (19, 49839), (21, 49815),

Gene: TootsiePop_73 Start: 45868, Stop: 45993, Start Num: 15
Candidate Starts for TootsiePop_73:
(Start: 15 @45868 has 62 MA's), (20, 45910),

Gene: Travvers_92 Start: 49798, Stop: 49685, Start Num: 12
Candidate Starts for Travvers_92:
(Start: 12 @49798 has 10 MA's), (Start: 15 @49780 has 62 MA's), (16, 49765), (19, 49756), (21, 49732),

Gene: VC3_88 Start: 48160, Stop: 48047, Start Num: 12
Candidate Starts for VC3_88:
(9, 48226), (Start: 12 @48160 has 10 MA's), (Start: 15 @48142 has 62 MA's), (16, 48127), (19, 48118), (21, 48094),

Gene: Xeno_55 Start: 35530, Stop: 35655, Start Num: 14
Candidate Starts for Xeno_55:
(Start: 14 @35530 has 1 MA's), (Start: 15 @35533 has 62 MA's), (22, 35605),

Gene: Xula_49 Start: 35689, Stop: 35811, Start Num: 15
Candidate Starts for Xula_49:
(Start: 14 @35686 has 1 MA's), (Start: 15 @35689 has 62 MA's),

Gene: Zilizebeth_58 Start: 37707, Stop: 37829, Start Num: 15
Candidate Starts for Zilizebeth_58:
(Start: 14 @37704 has 1 MA's), (Start: 15 @37707 has 62 MA's),