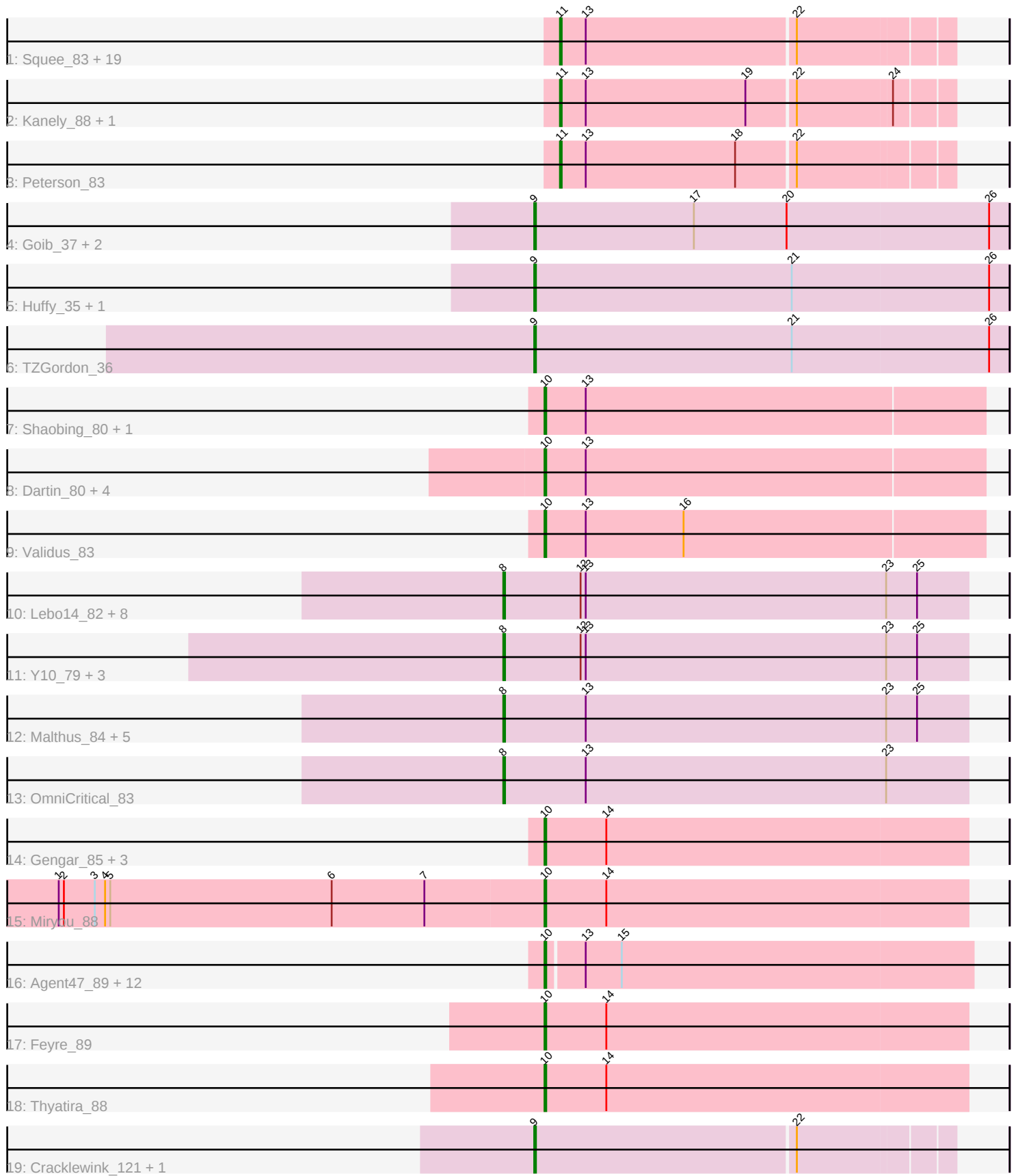


Pham 234562



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 234562 Report

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

Pham number 234562 has 79 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Squee_83, Maroc7_85, Bigfoot_79, CactusRose_87, AFIS_81, Wilkins_81, Phlippers_82, Nerujay_88, NEHalo_80, Arcanine_87, Topgun_80, MrGordo_86, Papez_87, Big3_85, Marco3_85, Slagathor_84, Anglerfish_86, Ohno789_87, Naira_88, Fascinus_79
- Track 2 : Kanely_88, Altman_89
- Track 3 : Peterson_83
- Track 4 : Goib_37, Vendetta_35, Splinter_35
- Track 5 : Huffy_35, DinoDaryn_35
- Track 6 : TZGordon_36
- Track 7 : Shaobing_80, Niklas_81
- Track 8 : Dartin_80, McMat_80, Peanam_81, Richo_80, Chavito_80
- Track 9 : Validus_83
- Track 10 : Lebo14_82, Chancellor_83, YasnayaPolyana_82, Mitti_83, Cheetobro_83, DanSyl44_86, SamScheppers_82, Slarp_83, Taquito_82
- Track 11 : Y10_79, JF1_83, Y2_79, Ruthiejr_84
- Track 12 : Malthus_84, Kraw_83, Eponine_85, Fionnbharth_83, Wintermute_83, Juliette_85
- Track 13 : OmniCritical_83
- Track 14 : Gengar_85, Leston_85, OkiRoe_86, Waterfoul_85
- Track 15 : Miryou_88
- Track 16 : Agent47_89, AlleyCat_92, BananenDer11_87, Larva_91, Psycho_90, Dadosky_92, InvictusManeo_87, Collard_88, DoubleChamp_87, Kratio_92, Edugator_86, Neighly_92, ViviJ_96
- Track 17 : Feyre_89
- Track 18 : Thyatira_88
- Track 19 : Cracklewink_121, Bipper_121

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

The start number called the most often in the published annotations is 11, it was called in 22 of the 70 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AFIS_81, Altman_89, Anglerfish_86, Arcanine_87, Big3_85, Bigfoot_79, CactusRose_87, Fascinus_79, Kanely_88, Marco3_85, Maroc7_85, MrGordo_86, NEHalo_80, Naira_88, Nerujay_88, Ohno789_87, Papez_87, Peterson_83, Phlippers_82, Slagathor_84, Squee_83, Topgun_80, Wilkins_81,

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

-

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

- Agent47_89, AlleyCat_92, BananenDer11_87, Bipper_121, Chancellor_83, Chavito_80, Cheetobro_83, Collard_88, Cracklewink_121, Dadosky_92, DanSyl44_86, Dartin_80, DinoDaryn_35, DoubleChamp_87, Edugator_86, Eponine_85, Feyre_89, Fionnbharth_83, Gengar_85, Goib_37, Huff_35, InvictusManeo_87, JF1_83, Juliette_85, Kratio_92, Kraw_83, Larva_91, Lebo14_82, Leston_85, Malthus_84, McMater_80, Miryou_88, Mitti_83, Neighly_92, Niklas_81, OkiRoe_86, OmniCritical_83, Peanam_81, Psycho_90, Richo_80, Ruthiejr_84, SamScheppers_82, Shaobing_80, Slarp_83, Splinter_35, TZGordon_36, Taquito_82, Thyatira_88, Validus_83, Vendetta_35, ViviJ_96, Waterfoul_85, Wintermute_83, Y10_79, Y2_79, YasnayaPolyana_82,

Summary by start number:

Start 8:

- Found in 20 of 79 (25.3%) of genes in pham
- Manual Annotations of this start: 19 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chancellor_83 (K4), Cheetobro_83 (K4), DanSyl44_86 (K4), Eponine_85 (K4), Fionnbharth_83 (K4), JF1_83 (K4), Juliette_85 (K4), Kraw_83 (K4), Lebo14_82 (K4), Malthus_84 (K4), Mitti_83 (K4), OmniCritical_83 (K4), Ruthiejr_84 (K4), SamScheppers_82 (K4), Slarp_83 (K4), Taquito_82 (K4), Wintermute_83 (K4), Y10_79 (K4), Y2_79 (K4), YasnayaPolyana_82 (K4),

Start 9:

- Found in 8 of 79 (10.1%) of genes in pham
- Manual Annotations of this start: 8 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bipper_121 (Y), Cracklewink_121 (Y), DinoDaryn_35 (CU1), Goib_37 (CU1), Huff_35 (CU1), Splinter_35 (CU1), TZGordon_36 (CU1), Vendetta_35 (CU1),

Start 10:

- Found in 28 of 79 (35.4%) of genes in pham
- Manual Annotations of this start: 21 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agent47_89 (K5), AlleyCat_92 (K5), BananenDer11_87 (K5), Chavito_80 (K1), Collard_88 (K5), Dadosky_92 (K5), Dartin_80 (K1), DoubleChamp_87 (K5), Edugator_86 (K5), Feyre_89 (K5), Gengar_85 (K5), InvictusManeo_87 (K5), Kratio_92 (K5), Larva_91 (K5), Leston_85 (K5), McMater_80 (K1), Miryou_88 (K5), Neighly_92 (K3), Niklas_81 (K1), OkiRoe_86 (K5), Peanam_81 (K1), Psycho_90 (K5), Richo_80 (K1), Shaobing_80 (K1), Thyatira_88 (K5), Validus_83 (K1), ViviJ_96 (K5), Waterfoul_85 (K5),

Start 11:

- Found in 23 of 79 (29.1%) of genes in pham
- Manual Annotations of this start: 22 of 70
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AFIS_81 (A1), Altman_89 (A1), Anglerfish_86 (A1), Arcanine_87 (A1), Big3_85 (A1), Bigfoot_79 (A1), CactusRose_87 (A1), Fascinus_79 (A1), Kanely_88 (A1), Marco3_85 (A1), Maroc7_85 (A1), MrGordo_86 (A1), NEHalo_80 (A1), Naira_88 (A1), Nerujay_88 (A1), Ohno789_87 (A1), Papez_87 (A1), Peterson_83 (A1), Phlippers_82 (A1), Slagathor_84 (A1), Squee_83 (A1), Topgun_80 (A1), Wilkins_81 (A1),

Summary by clusters:

There are 7 clusters represented in this pham: K3, CU1, A1, K1, K5, K4, Y,

Info for manual annotations of cluster A1:

- Start number 11 was manually annotated 22 times for cluster A1.

Info for manual annotations of cluster CU1:

- Start number 9 was manually annotated 6 times for cluster CU1.

Info for manual annotations of cluster K1:

- Start number 10 was manually annotated 4 times for cluster K1.

Info for manual annotations of cluster K4:

- Start number 8 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 10 was manually annotated 17 times for cluster K5.

Info for manual annotations of cluster Y:

- Start number 9 was manually annotated 2 times for cluster Y.

Gene Information:

Gene: AFIS_81 Start: 49030, Stop: 48809, Start Num: 11

Candidate Starts for AFIS_81:

(Start: 11 @49030 has 22 MA's), (13, 49015), (22, 48895),

Gene: Agent47_89 Start: 56631, Stop: 56876, Start Num: 10

Candidate Starts for Agent47_89:

(Start: 10 @56631 has 21 MA's), (13, 56652), (15, 56673),

Gene: AlleyCat_92 Start: 57918, Stop: 58163, Start Num: 10

Candidate Starts for AlleyCat_92:

(Start: 10 @57918 has 21 MA's), (13, 57939), (15, 57960),

Gene: Altman_89 Start: 49964, Stop: 49743, Start Num: 11

Candidate Starts for Altman_89:

(Start: 11 @49964 has 22 MA's), (13, 49949), (19, 49856), (22, 49829), (24, 49775),

Gene: Anglerfish_86 Start: 49850, Stop: 49629, Start Num: 11
Candidate Starts for Anglerfish_86:
(Start: 11 @49850 has 22 MA's), (13, 49835), (22, 49715),

Gene: Arcanine_87 Start: 50106, Stop: 49885, Start Num: 11
Candidate Starts for Arcanine_87:
(Start: 11 @50106 has 22 MA's), (13, 50091), (22, 49971),

Gene: BananenDer11_87 Start: 56883, Stop: 57128, Start Num: 10
Candidate Starts for BananenDer11_87:
(Start: 10 @56883 has 21 MA's), (13, 56904), (15, 56925),

Gene: Big3_85 Start: 50352, Stop: 50131, Start Num: 11
Candidate Starts for Big3_85:
(Start: 11 @50352 has 22 MA's), (13, 50337), (22, 50217),

Gene: Bigfoot_79 Start: 48420, Stop: 48199, Start Num: 11
Candidate Starts for Bigfoot_79:
(Start: 11 @48420 has 22 MA's), (13, 48405), (22, 48285),

Gene: Bipper_121 Start: 71808, Stop: 72044, Start Num: 9
Candidate Starts for Bipper_121:
(Start: 9 @71808 has 8 MA's), (22, 71958),

Gene: CactusRose_87 Start: 49437, Stop: 49216, Start Num: 11
Candidate Starts for CactusRose_87:
(Start: 11 @49437 has 22 MA's), (13, 49422), (22, 49302),

Gene: Chancellor_83 Start: 51927, Stop: 52196, Start Num: 8
Candidate Starts for Chancellor_83:
(Start: 8 @51927 has 19 MA's), (12, 51972), (13, 51975), (23, 52149), (25, 52167),

Gene: Chavito_80 Start: 52992, Stop: 53246, Start Num: 10
Candidate Starts for Chavito_80:
(Start: 10 @52992 has 21 MA's), (13, 53016),

Gene: Cheetobro_83 Start: 52063, Stop: 52332, Start Num: 8
Candidate Starts for Cheetobro_83:
(Start: 8 @52063 has 19 MA's), (12, 52108), (13, 52111), (23, 52285), (25, 52303),

Gene: Collard_88 Start: 56883, Stop: 57128, Start Num: 10
Candidate Starts for Collard_88:
(Start: 10 @56883 has 21 MA's), (13, 56904), (15, 56925),

Gene: Cracklewink_121 Start: 70960, Stop: 71196, Start Num: 9
Candidate Starts for Cracklewink_121:
(Start: 9 @70960 has 8 MA's), (22, 71110),

Gene: Dadosky_92 Start: 57919, Stop: 58164, Start Num: 10
Candidate Starts for Dadosky_92:
(Start: 10 @57919 has 21 MA's), (13, 57940), (15, 57961),

Gene: DanSyl44_86 Start: 53313, Stop: 53582, Start Num: 8

Candidate Starts for DanSyl44_86:
(Start: 8 @53313 has 19 MA's), (12, 53358), (13, 53361), (23, 53535), (25, 53553),

Gene: Dartin_80 Start: 52529, Stop: 52783, Start Num: 10
Candidate Starts for Dartin_80:
(Start: 10 @52529 has 21 MA's), (13, 52553),

Gene: DinoDaryn_35 Start: 25233, Stop: 25508, Start Num: 9
Candidate Starts for DinoDaryn_35:
(Start: 9 @25233 has 8 MA's), (21, 25383), (26, 25497),

Gene: DoubleChamp_87 Start: 56883, Stop: 57128, Start Num: 10
Candidate Starts for DoubleChamp_87:
(Start: 10 @56883 has 21 MA's), (13, 56904), (15, 56925),

Gene: Edugator_86 Start: 59118, Stop: 59363, Start Num: 10
Candidate Starts for Edugator_86:
(Start: 10 @59118 has 21 MA's), (13, 59139), (15, 59160),

Gene: Eponine_85 Start: 52909, Stop: 53178, Start Num: 8
Candidate Starts for Eponine_85:
(Start: 8 @52909 has 19 MA's), (13, 52957), (23, 53131), (25, 53149),

Gene: Fascinus_79 Start: 48933, Stop: 48712, Start Num: 11
Candidate Starts for Fascinus_79:
(Start: 11 @48933 has 22 MA's), (13, 48918), (22, 48798),

Gene: Feyre_89 Start: 58521, Stop: 58766, Start Num: 10
Candidate Starts for Feyre_89:
(Start: 10 @58521 has 21 MA's), (14, 58557),

Gene: Fionnbharth_83 Start: 52307, Stop: 52576, Start Num: 8
Candidate Starts for Fionnbharth_83:
(Start: 8 @52307 has 19 MA's), (13, 52355), (23, 52529), (25, 52547),

Gene: Gengar_85 Start: 56110, Stop: 56355, Start Num: 10
Candidate Starts for Gengar_85:
(Start: 10 @56110 has 21 MA's), (14, 56146),

Gene: Goib_37 Start: 26206, Stop: 26481, Start Num: 9
Candidate Starts for Goib_37:
(Start: 9 @26206 has 8 MA's), (17, 26299), (20, 26353), (26, 26470),

Gene: Huffy_35 Start: 25233, Stop: 25508, Start Num: 9
Candidate Starts for Huffy_35:
(Start: 9 @25233 has 8 MA's), (21, 25383), (26, 25497),

Gene: InvictusManeo_87 Start: 56635, Stop: 56880, Start Num: 10
Candidate Starts for InvictusManeo_87:
(Start: 10 @56635 has 21 MA's), (13, 56656), (15, 56677),

Gene: JF1_83 Start: 52223, Stop: 52492, Start Num: 8
Candidate Starts for JF1_83:

(Start: 8 @52223 has 19 MA's), (12, 52268), (13, 52271), (23, 52445), (25, 52463),

Gene: Juliette_85 Start: 52330, Stop: 52599, Start Num: 8

Candidate Starts for Juliette_85:

(Start: 8 @52330 has 19 MA's), (13, 52378), (23, 52552), (25, 52570),

Gene: Kanely_88 Start: 49741, Stop: 49520, Start Num: 11

Candidate Starts for Kanely_88:

(Start: 11 @49741 has 22 MA's), (13, 49726), (19, 49633), (22, 49606), (24, 49552),

Gene: Kratio_92 Start: 57815, Stop: 58060, Start Num: 10

Candidate Starts for Kratio_92:

(Start: 10 @57815 has 21 MA's), (13, 57836), (15, 57857),

Gene: Kraw_83 Start: 52039, Stop: 52308, Start Num: 8

Candidate Starts for Kraw_83:

(Start: 8 @52039 has 19 MA's), (13, 52087), (23, 52261), (25, 52279),

Gene: Larva_91 Start: 58791, Stop: 59036, Start Num: 10

Candidate Starts for Larva_91:

(Start: 10 @58791 has 21 MA's), (13, 58812), (15, 58833),

Gene: Lebo14_82 Start: 52460, Stop: 52729, Start Num: 8

Candidate Starts for Lebo14_82:

(Start: 8 @52460 has 19 MA's), (12, 52505), (13, 52508), (23, 52682), (25, 52700),

Gene: Leston_85 Start: 56066, Stop: 56311, Start Num: 10

Candidate Starts for Leston_85:

(Start: 10 @56066 has 21 MA's), (14, 56102),

Gene: Malthus_84 Start: 52039, Stop: 52308, Start Num: 8

Candidate Starts for Malthus_84:

(Start: 8 @52039 has 19 MA's), (13, 52087), (23, 52261), (25, 52279),

Gene: Marco3_85 Start: 49943, Stop: 49722, Start Num: 11

Candidate Starts for Marco3_85:

(Start: 11 @49943 has 22 MA's), (13, 49928), (22, 49808),

Gene: Maroc7_85 Start: 50361, Stop: 50140, Start Num: 11

Candidate Starts for Maroc7_85:

(Start: 11 @50361 has 22 MA's), (13, 50346), (22, 50226),

Gene: McMater_80 Start: 52529, Stop: 52783, Start Num: 10

Candidate Starts for McMater_80:

(Start: 10 @52529 has 21 MA's), (13, 52553),

Gene: Miryou_88 Start: 58145, Stop: 58390, Start Num: 10

Candidate Starts for Miryou_88:

(1, 57863), (2, 57866), (3, 57884), (4, 57890), (5, 57893), (6, 58022), (7, 58076), (Start: 10 @58145 has 21 MA's), (14, 58181),

Gene: Mitti_83 Start: 52201, Stop: 52470, Start Num: 8

Candidate Starts for Mitti_83:

(Start: 8 @52201 has 19 MA's), (12, 52246), (13, 52249), (23, 52423), (25, 52441),

Gene: MrGordo_86 Start: 48098, Stop: 47877, Start Num: 11

Candidate Starts for MrGordo_86:

(Start: 11 @48098 has 22 MA's), (13, 48083), (22, 47963),

Gene: NEHalo_80 Start: 47840, Stop: 47619, Start Num: 11

Candidate Starts for NEHalo_80:

(Start: 11 @47840 has 22 MA's), (13, 47825), (22, 47705),

Gene: Naira_88 Start: 49777, Stop: 49556, Start Num: 11

Candidate Starts for Naira_88:

(Start: 11 @49777 has 22 MA's), (13, 49762), (22, 49642),

Gene: Neighly_92 Start: 58790, Stop: 59035, Start Num: 10

Candidate Starts for Neighly_92:

(Start: 10 @58790 has 21 MA's), (13, 58811), (15, 58832),

Gene: Nerujay_88 Start: 50412, Stop: 50191, Start Num: 11

Candidate Starts for Nerujay_88:

(Start: 11 @50412 has 22 MA's), (13, 50397), (22, 50277),

Gene: Niklas_81 Start: 52605, Stop: 52859, Start Num: 10

Candidate Starts for Niklas_81:

(Start: 10 @52605 has 21 MA's), (13, 52629),

Gene: Ohno789_87 Start: 50069, Stop: 49848, Start Num: 11

Candidate Starts for Ohno789_87:

(Start: 11 @50069 has 22 MA's), (13, 50054), (22, 49934),

Gene: OkiRoe_86 Start: 57074, Stop: 57319, Start Num: 10

Candidate Starts for OkiRoe_86:

(Start: 10 @57074 has 21 MA's), (14, 57110),

Gene: OmniCritical_83 Start: 52203, Stop: 52472, Start Num: 8

Candidate Starts for OmniCritical_83:

(Start: 8 @52203 has 19 MA's), (13, 52251), (23, 52425),

Gene: Papez_87 Start: 49764, Stop: 49543, Start Num: 11

Candidate Starts for Papez_87:

(Start: 11 @49764 has 22 MA's), (13, 49749), (22, 49629),

Gene: Peanam_81 Start: 52548, Stop: 52802, Start Num: 10

Candidate Starts for Peanam_81:

(Start: 10 @52548 has 21 MA's), (13, 52572),

Gene: Peterson_83 Start: 49731, Stop: 49510, Start Num: 11

Candidate Starts for Peterson_83:

(Start: 11 @49731 has 22 MA's), (13, 49716), (18, 49629), (22, 49596),

Gene: Phlippers_82 Start: 49825, Stop: 49604, Start Num: 11

Candidate Starts for Phlippers_82:

(Start: 11 @49825 has 22 MA's), (13, 49810), (22, 49690),

Gene: Psycho_90 Start: 57916, Stop: 58161, Start Num: 10

Candidate Starts for Psycho_90:

(Start: 10 @57916 has 21 MA's), (13, 57937), (15, 57958),

Gene: Richo_80 Start: 52529, Stop: 52783, Start Num: 10

Candidate Starts for Richo_80:

(Start: 10 @52529 has 21 MA's), (13, 52553),

Gene: Ruthiejr_84 Start: 52096, Stop: 52365, Start Num: 8

Candidate Starts for Ruthiejr_84:

(Start: 8 @52096 has 19 MA's), (12, 52141), (13, 52144), (23, 52318), (25, 52336),

Gene: SamScheppers_82 Start: 52399, Stop: 52668, Start Num: 8

Candidate Starts for SamScheppers_82:

(Start: 8 @52399 has 19 MA's), (12, 52444), (13, 52447), (23, 52621), (25, 52639),

Gene: Shaobing_80 Start: 52580, Stop: 52834, Start Num: 10

Candidate Starts for Shaobing_80:

(Start: 10 @52580 has 21 MA's), (13, 52604),

Gene: Slagathor_84 Start: 49414, Stop: 49193, Start Num: 11

Candidate Starts for Slagathor_84:

(Start: 11 @49414 has 22 MA's), (13, 49399), (22, 49279),

Gene: Slarp_83 Start: 52066, Stop: 52335, Start Num: 8

Candidate Starts for Slarp_83:

(Start: 8 @52066 has 19 MA's), (12, 52111), (13, 52114), (23, 52288), (25, 52306),

Gene: Splinter_35 Start: 26196, Stop: 26471, Start Num: 9

Candidate Starts for Splinter_35:

(Start: 9 @26196 has 8 MA's), (17, 26289), (20, 26343), (26, 26460),

Gene: Squee_83 Start: 48148, Stop: 47927, Start Num: 11

Candidate Starts for Squee_83:

(Start: 11 @48148 has 22 MA's), (13, 48133), (22, 48013),

Gene: TZGordon_36 Start: 25149, Stop: 25424, Start Num: 9

Candidate Starts for TZGordon_36:

(Start: 9 @25149 has 8 MA's), (21, 25299), (26, 25413),

Gene: Taquito_82 Start: 52099, Stop: 52368, Start Num: 8

Candidate Starts for Taquito_82:

(Start: 8 @52099 has 19 MA's), (12, 52144), (13, 52147), (23, 52321), (25, 52339),

Gene: Thyatira_88 Start: 58942, Stop: 59187, Start Num: 10

Candidate Starts for Thyatira_88:

(Start: 10 @58942 has 21 MA's), (14, 58978),

Gene: Topgun_80 Start: 46988, Stop: 46767, Start Num: 11

Candidate Starts for Topgun_80:

(Start: 11 @46988 has 22 MA's), (13, 46973), (22, 46853),

Gene: Validus_83 Start: 52849, Stop: 53103, Start Num: 10

Candidate Starts for Validus_83:

(Start: 10 @52849 has 21 MA's), (13, 52873), (16, 52930),

Gene: Vendetta_35 Start: 26196, Stop: 26471, Start Num: 9

Candidate Starts for Vendetta_35:

(Start: 9 @26196 has 8 MA's), (17, 26289), (20, 26343), (26, 26460),

Gene: ViviJ_96 Start: 58972, Stop: 59217, Start Num: 10

Candidate Starts for ViviJ_96:

(Start: 10 @58972 has 21 MA's), (13, 58993), (15, 59014),

Gene: Waterfoul_85 Start: 55728, Stop: 55973, Start Num: 10

Candidate Starts for Waterfoul_85:

(Start: 10 @55728 has 21 MA's), (14, 55764),

Gene: Wilkins_81 Start: 46918, Stop: 46697, Start Num: 11

Candidate Starts for Wilkins_81:

(Start: 11 @46918 has 22 MA's), (13, 46903), (22, 46783),

Gene: Wintermute_83 Start: 52275, Stop: 52544, Start Num: 8

Candidate Starts for Wintermute_83:

(Start: 8 @52275 has 19 MA's), (13, 52323), (23, 52497), (25, 52515),

Gene: Y10_79 Start: 52223, Stop: 52492, Start Num: 8

Candidate Starts for Y10_79:

(Start: 8 @52223 has 19 MA's), (12, 52268), (13, 52271), (23, 52445), (25, 52463),

Gene: Y2_79 Start: 52223, Stop: 52492, Start Num: 8

Candidate Starts for Y2_79:

(Start: 8 @52223 has 19 MA's), (12, 52268), (13, 52271), (23, 52445), (25, 52463),

Gene: YasnayaPolyana_82 Start: 52199, Stop: 52468, Start Num: 8

Candidate Starts for YasnayaPolyana_82:

(Start: 8 @52199 has 19 MA's), (12, 52244), (13, 52247), (23, 52421), (25, 52439),