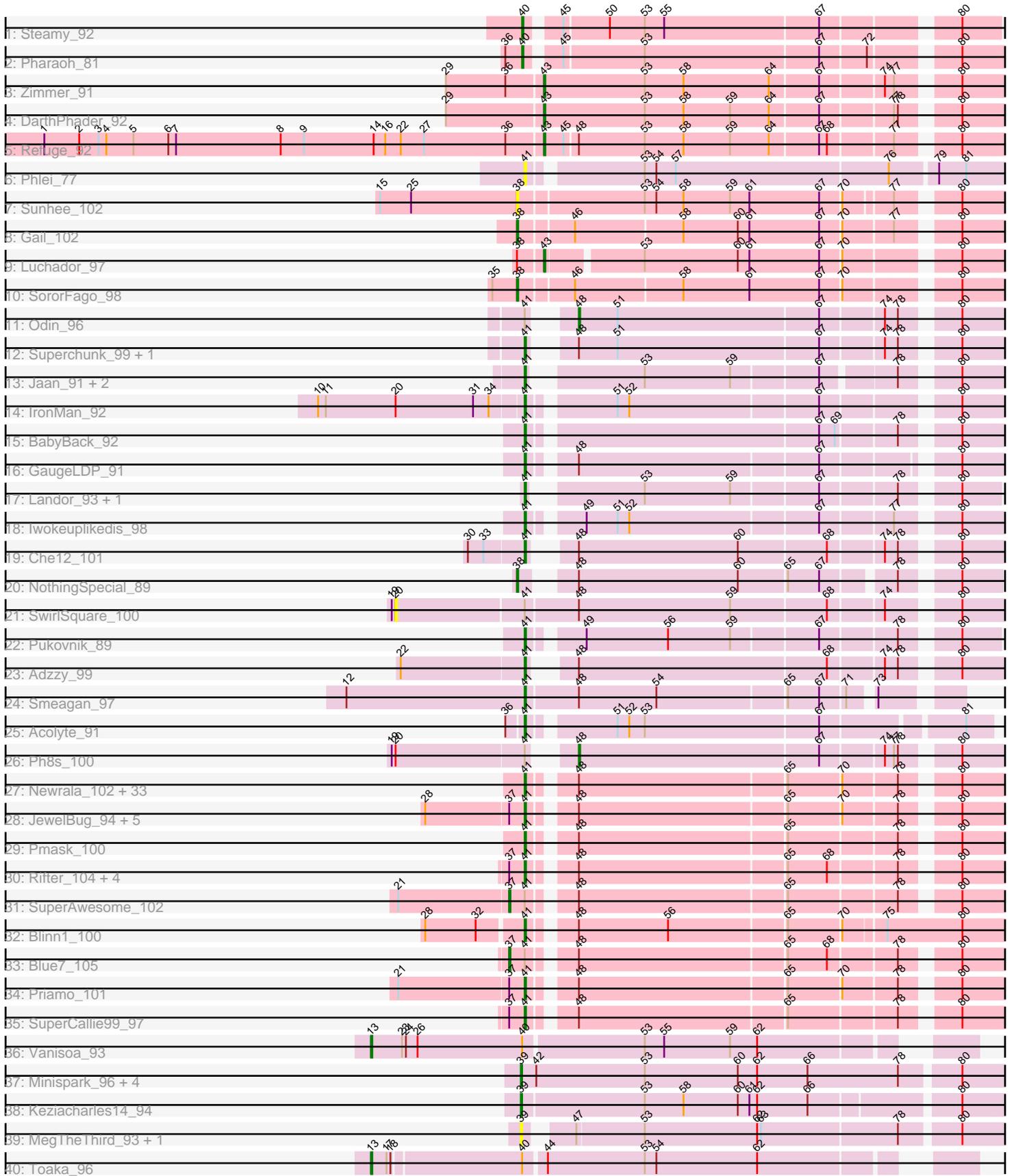# Pham 283691

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 283691 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283691 has 91 members, 14 are drafts.

Phages represented in each track:
• Track 1 : Steamy_92
• Track 2 : Pharaoh_81
• Track 3 : Zimmer_91
• Track 4 : DarthPhader_92
• Track 5 : Refuge_92
• Track 6 : Phlei_77
• Track 7 : Sunhee_102
• Track 8 : Gail_102
• Track 9 : Luchador_97
• Track 10 : SororFago_98
• Track 11 : Odin_96
• Track 12 : Superchunk_99, Caraxes_100
• Track 13 : Jaan_91, Tristan_92, Phaded_88
• Track 14 : IronMan_92
• Track 15 : BabyBack_92
• Track 16 : GaugeLDP_91
• Track 17 : Landor_93, Bactobuster_87
• Track 18 : Iwokeuplikedis_98
• Track 19 : Che12_101
• Track 20 : NothingSpecial_89
• Track 21 : SwirlSquare_100
• Track 22 : Pukovnik_89
• Track 23 : Adzzy_99
• Track 24 : Smeagan_97
• Track 25 : Acolyte_91
• Track 26 : Ph8s_100
• Track 27 : Newrala_102, Indra_105, Neeharika16_99, Roksolana_106, EricB_100, DaVinci_100, Hexamo_105, Chartreuse_102, ToneTone_99, Yokurt_102, CloudWang3_106, Wiks_103, Helmet_107, Candra_100, Hoot_98, Artemis2UCLA_105, Zulu_104, Kazan_104, Garak_104, Lilbunny_99, SmellyB_103, Jeffabunny_94, Cookiedough_101, McFly_102, GreedyLawyer_91, WunderPhul_92, BlessJoy_104, VohminGhazi_103, Isiphiwo_99, BABullseye_96, Temprado_104, Tucker_104, BennyP_103, Zaka_104
• Track 28 : JewelBug_94, DelvinSonDorr_97, Dorothea_102, Polyphemus_93, Jordennis_99, Kipper29_101
• Track 29 : Pmask_100
• Track 30 : Rifter_104, Koko_105, Gruunaga_104, Hammer_104, Gladiator_99

- Track 31 : SuperAwesome_102
- Track 32 : Blinn1_100
- Track 33 : Blue7_105
- Track 34 : Priamo_101
- Track 35 : SuperCallie99_97
- Track 36 : Vanisoa_93
- Track 37 : Minispark_96, Rahalelujah_98, CogOmlette_96, WorldCup_97, Bellris_96
- Track 38 : Keziacharles14_94
- Track 39 : MegTheThird_93, Celestialunch_92
- Track 40 : Toaka_96

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

The start number called the most often in the published annotations is 41, it was called in 60 of the 77 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Acolyte_91, Adzzy_99, Artemis2UCLA_105, BABullseye_96, BabyBack_92, Bactobuster_87, BennyP_103, BlessJoy_104, Blinn1_100, Candra_100, Caraxes_100, Chartreuse_102, Che12_101, CloudWang3_106, Cookiedough_101, DaVinci_100, DelvinSonDorr_97, Dorothea_102, EricB_100, Garak_104, GaugeLDP_91, Gladiator_99, GreedyLawyer_91, Gruunaga_104, Hammer_104, Helmet_107, Hexamo_105, Hoot_98, Indra_105, IronMan_92, Isiphiwo_99, Iwokeuplikedis_98, Jaan_91, Jeffabunny_94, JewelBug_94, Jordennis_99, Kazan_104, Kipper29_101, Koko_105, Landor_93, Lilbunny_99, McFly_102, Neeharika16_99, Newrala_102, Phaded_88, Phlei_77, Pmask_100, Polyphemus_93, Priamo_101, Pukovnik_89, Rifter_104, Roksolana_106, Smeagan_97, SmellyB_103, SuperCallie99_97, Superchunk_99, Temprado_104, ToneTone_99, Tristan_92, Tucker_104, VohminGhazi_103, Wiks_103, WunderPhul_92, Yokurt_102, Zaka_104, Zulu_104,

Genes that have the "Most Annotated" start but do not call it:
- Blue7_105, Odin_96, Ph8s_100, SuperAwesome_102, SwirlSquare_100,

Genes that do not have the "Most Annotated" start:
- Bellris_96, Celestialunch_92, CogOmlette_96, DarthPhader_92, Gail_102, Keziacharles14_94, Luchador_97, MegTheThird_93, Minispark_96, NothingSpecial_89, Pharaoh_81, Rahalelujah_98, Refuge_92, SororFago_98, Steamy_92, Sunhee_102, Toaka_96, Vanisoa_93, WorldCup_97, Zimmer_91,

Summary by start number:

Start 13:
- Found in 2 of 91 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 77
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toaka_96 (A9), Vanisoa_93 (A9),

Start 20:
- Found in 3 of 91 (3.3%) of genes in pham

• No Manual Annotations of this start.
• Called 33.3% of time when present
• Phage (with cluster) where this start called: SwirlSquare_100 (A2),

Start 37:
• Found in 15 of 91 (16.5%) of genes in pham
• Manual Annotations of this start: 2 of 77
• Called 13.3% of time when present
• Phage (with cluster) where this start called: Blue7_105 (A6), SuperAwesome_102 (A6),

Start 38:
• Found in 5 of 91 (5.5%) of genes in pham
• Manual Annotations of this start: 3 of 77
• Called 80.0% of time when present
• Phage (with cluster) where this start called: Gail_102 (A14), NothingSpecial_89 (A2), SororFago_98 (A14), Sunhee_102 (A14),

Start 39:
• Found in 8 of 91 (8.8%) of genes in pham
• Manual Annotations of this start: 2 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bellris_96 (A9), Celestialunch_92 (A9), CogOmlette_96 (A9), Keziacharles14_94 (A9), MegTheThird_93 (A9), Minispark_96 (A9), Rahalelujah_98 (A9), WorldCup_97 (A9),

Start 40:
• Found in 4 of 91 (4.4%) of genes in pham
• Manual Annotations of this start: 2 of 77
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Pharaoh_81 (A12), Steamy_92 (A12),

Start 41:
• Found in 71 of 91 (78.0%) of genes in pham
• Manual Annotations of this start: 60 of 77
• Called 93.0% of time when present
• Phage (with cluster) where this start called: Acolyte_91 (A2), Adzzy_99 (A2), Artemis2UCLA_105 (A6), BABullseye_96 (A6), BabyBack_92 (A2), Bactobuster_87 (A2), BennyP_103 (A6), BlessJoy_104 (A6), Blinn1_100 (A6), Candra_100 (A6), Caraxes_100 (A2), Chartreuse_102 (A6), Che12_101 (A2), CloudWang3_106 (A6), Cookiedough_101 (A6), DaVinci_100 (A6), DelvinSonDorr_97 (A6), Dorothea_102 (A6), EricB_100 (A6), Garak_104 (A6), GaugeLDP_91 (A2), Gladiator_99 (A6), GreedyLawyer_91 (A6), Gruunaga_104 (A6), Hammer_104 (A6), Helmet_107 (A6), Hexamo_105 (A6), Hoot_98 (A6), Indra_105 (A6), IronMan_92 (A2), Isiphiwo_99 (A6), Iwokeuplikedis_98 (A2), Jaan_91 (A2), Jeffabunny_94 (A6), JewelBug_94 (A6), Jordennis_99 (A6), Kazan_104 (A6), Kipper29_101 (A6), Koko_105 (A6), Landor_93 (A2), Lilbunny_99 (A6), McFly_102 (A6), Neeharika16_99 (A6), Newrala_102 (A6), Phaded_88 (A2), Phlei_77 (A13), Pmask_100 (A6), Polyphemus_93 (A6), Priamo_101 (A6), Pukovnik_89 (A2), Rifter_104 (A6), Roksolana_106 (A6), Smeagan_97 (A2), SmellyB_103 (A6), SuperCallie99_97 (A6), Superchunk_99 (A2), Temprado_104 (A6), ToneTone_99 (A6), Tristan_92 (A2), Tucker_104 (A6), VohminGhazi_103 (A6), Wiks_103 (A6), WunderPhul_92 (A6), Yokurt_102 (A6), Zaka_104 (A6), Zulu_104 (A6),

Start 43:
• Found in 4 of 91 (4.4%) of genes in pham
• Manual Annotations of this start: 4 of 77
• Called 100.0% of time when present
• Phage (with cluster) where this start called: DarthPhader_92 (A12), Luchador_97 (A14), Refuge_92 (A12), Zimmer_91 (A12),

Start 48:
• Found in 62 of 91 (68.1%) of genes in pham
• Manual Annotations of this start: 2 of 77
• Called 3.2% of time when present
• Phage (with cluster) where this start called: Odin_96 (A2), Ph8s_100 (A2),

Summary by clusters:

There are 6 clusters represented in this pham: A14, A13, A12, A2, A6, A9,

Info for manual annotations of cluster A12:
•Start number 40 was manually annotated 2 times for cluster A12.
•Start number 43 was manually annotated 3 times for cluster A12.

Info for manual annotations of cluster A14:
•Start number 38 was manually annotated 2 times for cluster A14.
•Start number 43 was manually annotated 1 time for cluster A14.

Info for manual annotations of cluster A2:
•Start number 38 was manually annotated 1 time for cluster A2.
•Start number 41 was manually annotated 15 times for cluster A2.
•Start number 48 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A6:
•Start number 37 was manually annotated 2 times for cluster A6.
•Start number 41 was manually annotated 45 times for cluster A6.

Info for manual annotations of cluster A9:
•Start number 13 was manually annotated 2 times for cluster A9.
•Start number 39 was manually annotated 2 times for cluster A9.

Gene Information:

Gene: Acolyte_91 Start: 51451, Stop: 51122, Start Num: 41
Candidate Starts for Acolyte_91:
(36, 51463), (Start: 41 @51451 has 60 MA's), (51, 51394), (52, 51385), (53, 51373), (67, 51241), (81, 51142),

Gene: Adzzy_99 Start: 51234, Stop: 50908, Start Num: 41
Candidate Starts for Adzzy_99:
(22, 51327), (Start: 41 @51234 has 60 MA's), (Start: 48 @51216 has 2 MA's), (68, 51027), (74, 50988), (78, 50979), (80, 50943),

Gene: Artemis2UCLA_105 Start: 51118, Stop: 50786, Start Num: 41
Candidate Starts for Artemis2UCLA_105:
(Start: 41 @51118 has 60 MA's), (Start: 48 @51091 has 2 MA's), (65, 50935), (70, 50896), (78, 50857), (80, 50821),

Gene: BABullseye_96 Start: 49256, Stop: 48924, Start Num: 41
Candidate Starts for BABullseye_96:
(Start: 41 @49256 has 60 MA's), (Start: 48 @49229 has 2 MA's), (65, 49073), (70, 49034), (78, 48995), (80, 48959),

Gene: BabyBack_92 Start: 52424, Stop: 52089, Start Num: 41
Candidate Starts for BabyBack_92:
(Start: 41 @52424 has 60 MA's), (67, 52214), (69, 52202), (78, 52160), (80, 52124),

Gene: Bactobuster_87 Start: 50956, Stop: 50639, Start Num: 41
Candidate Starts for Bactobuster_87:
(Start: 41 @50956 has 60 MA's), (53, 50887), (59, 50821), (67, 50758), (78, 50704), (80, 50668),

Gene: Bellris_96 Start: 51412, Stop: 51041, Start Num: 39
Candidate Starts for Bellris_96:
(Start: 39 @51412 has 2 MA's), (42, 51400), (53, 51316), (60, 51244), (62, 51229), (66, 51190), (78, 51121), (80, 51079),

Gene: BennyP_103 Start: 51102, Stop: 50770, Start Num: 41
Candidate Starts for BennyP_103:
(Start: 41 @51102 has 60 MA's), (Start: 48 @51075 has 2 MA's), (65, 50919), (70, 50880), (78, 50841), (80, 50805),

Gene: BlessJoy_104 Start: 51315, Stop: 50983, Start Num: 41
Candidate Starts for BlessJoy_104:
(Start: 41 @51315 has 60 MA's), (Start: 48 @51288 has 2 MA's), (65, 51132), (70, 51093), (78, 51054), (80, 51018),

Gene: Blinn1_100 Start: 50561, Stop: 50217, Start Num: 41
Candidate Starts for Blinn1_100:
(28, 50633), (32, 50594), (Start: 41 @50561 has 60 MA's), (Start: 48 @50534 has 2 MA's), (56, 50465), (65, 50378), (70, 50339), (75, 50309), (80, 50252),

Gene: Blue7_105 Start: 51037, Stop: 50693, Start Num: 37
Candidate Starts for Blue7_105:
(Start: 37 @51037 has 2 MA's), (Start: 41 @51025 has 60 MA's), (Start: 48 @50998 has 2 MA's), (65, 50842), (68, 50812), (78, 50764), (80, 50728),

Gene: Candra_100 Start: 50964, Stop: 50632, Start Num: 41
Candidate Starts for Candra_100:
(Start: 41 @50964 has 60 MA's), (Start: 48 @50937 has 2 MA's), (65, 50781), (70, 50742), (78, 50703), (80, 50667),

Gene: Caraxes_100 Start: 51590, Stop: 51264, Start Num: 41
Candidate Starts for Caraxes_100:
(Start: 41 @51590 has 60 MA's), (Start: 48 @51572 has 2 MA's), (51, 51542), (67, 51389), (74, 51344), (78, 51335), (80, 51299),

Gene: Celestialunch_92 Start: 51045, Stop: 50695, Start Num: 39
Candidate Starts for Celestialunch_92:
(Start: 39 @51045 has 2 MA's), (47, 51018), (53, 50967), (62, 50880), (63, 50877), (78, 50775), (80, 50733),

Gene: Chartreuse_102 Start: 50265, Stop: 49933, Start Num: 41
Candidate Starts for Chartreuse_102:
(Start: 41 @50265 has 60 MA's), (Start: 48 @50238 has 2 MA's), (65, 50082), (70, 50043), (78, 50004), (80, 49968),

Gene: Che12_101 Start: 51704, Stop: 51378, Start Num: 41
Candidate Starts for Che12_101:
(30, 51746), (33, 51734), (Start: 41 @51704 has 60 MA's), (Start: 48 @51686 has 2 MA's), (60, 51563), (68, 51497), (74, 51458), (78, 51449), (80, 51413),

Gene: CloudWang3_106 Start: 51647, Stop: 51315, Start Num: 41
Candidate Starts for CloudWang3_106:
(Start: 41 @51647 has 60 MA's), (Start: 48 @51620 has 2 MA's), (65, 51464), (70, 51425), (78, 51386), (80, 51350),

Gene: CogOmlette_96 Start: 51409, Stop: 51038, Start Num: 39
Candidate Starts for CogOmlette_96:
(Start: 39 @51409 has 2 MA's), (42, 51397), (53, 51313), (60, 51241), (62, 51226), (66, 51187), (78, 51118), (80, 51076),

Gene: Cookiedough_101 Start: 51239, Stop: 50907, Start Num: 41
Candidate Starts for Cookiedough_101:
(Start: 41 @51239 has 60 MA's), (Start: 48 @51212 has 2 MA's), (65, 51056), (70, 51017), (78, 50978), (80, 50942),

Gene: DaVinci_100 Start: 50319, Stop: 49987, Start Num: 41
Candidate Starts for DaVinci_100:
(Start: 41 @50319 has 60 MA's), (Start: 48 @50292 has 2 MA's), (65, 50136), (70, 50097), (78, 50058), (80, 50022),

Gene: DarthPhader_92 Start: 52006, Stop: 51671, Start Num: 43
Candidate Starts for DarthPhader_92:
(29, 52078), (Start: 43 @52006 has 4 MA's), (53, 51928), (58, 51898), (59, 51862), (64, 51832), (67, 51796), (77, 51745), (78, 51742), (80, 51706),

Gene: DelvinSonDorr_97 Start: 50721, Stop: 50389, Start Num: 41
Candidate Starts for DelvinSonDorr_97:
(28, 50796), (Start: 37 @50733 has 2 MA's), (Start: 41 @50721 has 60 MA's), (Start: 48 @50694 has 2 MA's), (65, 50538), (70, 50499), (78, 50460), (80, 50424),

Gene: Dorothea_102 Start: 51419, Stop: 51087, Start Num: 41
Candidate Starts for Dorothea_102:
(28, 51494), (Start: 37 @51431 has 2 MA's), (Start: 41 @51419 has 60 MA's), (Start: 48 @51392 has 2 MA's), (65, 51236), (70, 51197), (78, 51158), (80, 51122),

Gene: EricB_100 Start: 50464, Stop: 50132, Start Num: 41
Candidate Starts for EricB_100:

(Start: 41 @50464 has 60 MA's), (Start: 48 @50437 has 2 MA's), (65, 50281), (70, 50242), (78, 50203), (80, 50167),

Gene: Gail_102 Start: 52375, Stop: 52022, Start Num: 38
Candidate Starts for Gail_102:
(Start: 38 @52375 has 3 MA's), (46, 52336), (58, 52255), (60, 52213), (61, 52204), (67, 52150), (70, 52135), (77, 52099), (80, 52060),

Gene: Garak_104 Start: 51265, Stop: 50933, Start Num: 41
Candidate Starts for Garak_104:
(Start: 41 @51265 has 60 MA's), (Start: 48 @51238 has 2 MA's), (65, 51082), (70, 51043), (78, 51004), (80, 50968),

Gene: GaugeLDP_91 Start: 51816, Stop: 51487, Start Num: 41
Candidate Starts for GaugeLDP_91:
(Start: 41 @51816 has 60 MA's), (Start: 48 @51789 has 2 MA's), (67, 51609), (80, 51522),

Gene: Gladiator_99 Start: 50976, Stop: 50644, Start Num: 41
Candidate Starts for Gladiator_99:
(Start: 37 @50988 has 2 MA's), (Start: 41 @50976 has 60 MA's), (Start: 48 @50949 has 2 MA's), (65, 50793), (68, 50763), (78, 50715), (80, 50679),

Gene: GreedyLawyer_91 Start: 50897, Stop: 50565, Start Num: 41
Candidate Starts for GreedyLawyer_91:
(Start: 41 @50897 has 60 MA's), (Start: 48 @50870 has 2 MA's), (65, 50714), (70, 50675), (78, 50636), (80, 50600),

Gene: Gruunaga_104 Start: 50932, Stop: 50600, Start Num: 41
Candidate Starts for Gruunaga_104:
(Start: 37 @50944 has 2 MA's), (Start: 41 @50932 has 60 MA's), (Start: 48 @50905 has 2 MA's), (65, 50749), (68, 50719), (78, 50671), (80, 50635),

Gene: Hammer_104 Start: 50626, Stop: 50297, Start Num: 41
Candidate Starts for Hammer_104:
(Start: 37 @50638 has 2 MA's), (Start: 41 @50626 has 60 MA's), (Start: 48 @50599 has 2 MA's), (65, 50443), (68, 50413), (78, 50368), (80, 50332),

Gene: Helmet_107 Start: 51401, Stop: 51069, Start Num: 41
Candidate Starts for Helmet_107:
(Start: 41 @51401 has 60 MA's), (Start: 48 @51374 has 2 MA's), (65, 51218), (70, 51179), (78, 51140), (80, 51104),

Gene: Hexamo_105 Start: 51133, Stop: 50801, Start Num: 41
Candidate Starts for Hexamo_105:
(Start: 41 @51133 has 60 MA's), (Start: 48 @51106 has 2 MA's), (65, 50950), (70, 50911), (78, 50872), (80, 50836),

Gene: Hoot_98 Start: 48781, Stop: 48449, Start Num: 41
Candidate Starts for Hoot_98:
(Start: 41 @48781 has 60 MA's), (Start: 48 @48754 has 2 MA's), (65, 48598), (70, 48559), (78, 48520), (80, 48484),

Gene: Indra_105 Start: 51266, Stop: 50934, Start Num: 41

Candidate Starts for Indra_105:
(Start: 41 @51266 has 60 MA's), (Start: 48 @51239 has 2 MA's), (65, 51083), (70, 51044), (78, 51005), (80, 50969),

Gene: IronMan_92 Start: 52365, Stop: 52033, Start Num: 41
Candidate Starts for IronMan_92:
(10, 52521), (11, 52515), (20, 52461), (31, 52401), (34, 52389), (Start: 41 @52365 has 60 MA's), (51, 52308), (52, 52299), (67, 52158), (80, 52068),

Gene: Isiphiwo_99 Start: 50683, Stop: 50351, Start Num: 41
Candidate Starts for Isiphiwo_99:
(Start: 41 @50683 has 60 MA's), (Start: 48 @50656 has 2 MA's), (65, 50500), (70, 50461), (78, 50422), (80, 50386),

Gene: Iwokeuplikedis_98 Start: 52088, Stop: 51759, Start Num: 41
Candidate Starts for Iwokeuplikedis_98:
(Start: 41 @52088 has 60 MA's), (49, 52055), (51, 52031), (52, 52022), (67, 51881), (77, 51830), (80, 51791),

Gene: Jaan_91 Start: 51391, Stop: 51071, Start Num: 41
Candidate Starts for Jaan_91:
(Start: 41 @51391 has 60 MA's), (53, 51322), (59, 51256), (67, 51193), (78, 51142), (80, 51106),

Gene: Jeffabunny_94 Start: 47736, Stop: 47404, Start Num: 41
Candidate Starts for Jeffabunny_94:
(Start: 41 @47736 has 60 MA's), (Start: 48 @47709 has 2 MA's), (65, 47553), (70, 47514), (78, 47475), (80, 47439),

Gene: JewelBug_94 Start: 49112, Stop: 48780, Start Num: 41
Candidate Starts for JewelBug_94:
(28, 49187), (Start: 37 @49124 has 2 MA's), (Start: 41 @49112 has 60 MA's), (Start: 48 @49085 has 2 MA's), (65, 48929), (70, 48890), (78, 48851), (80, 48815),

Gene: Jordennis_99 Start: 51016, Stop: 50684, Start Num: 41
Candidate Starts for Jordennis_99:
(28, 51091), (Start: 37 @51028 has 2 MA's), (Start: 41 @51016 has 60 MA's), (Start: 48 @50989 has 2 MA's), (65, 50833), (70, 50794), (78, 50755), (80, 50719),

Gene: Kazan_104 Start: 50934, Stop: 50602, Start Num: 41
Candidate Starts for Kazan_104:
(Start: 41 @50934 has 60 MA's), (Start: 48 @50907 has 2 MA's), (65, 50751), (70, 50712), (78, 50673), (80, 50637),

Gene: Keziacharles14_94 Start: 52148, Stop: 51786, Start Num: 39
Candidate Starts for Keziacharles14_94:
(Start: 39 @52148 has 2 MA's), (53, 52055), (58, 52025), (60, 51983), (61, 51974), (62, 51968), (66, 51929), (80, 51824),

Gene: Kipper29_101 Start: 50791, Stop: 50459, Start Num: 41
Candidate Starts for Kipper29_101:
(28, 50866), (Start: 37 @50803 has 2 MA's), (Start: 41 @50791 has 60 MA's), (Start: 48 @50764 has 2 MA's), (65, 50608), (70, 50569), (78, 50530), (80, 50494),

Gene: Koko_105 Start: 51643, Stop: 51314, Start Num: 41
Candidate Starts for Koko_105:
(Start: 37 @51655 has 2 MA's), (Start: 41 @51643 has 60 MA's), (Start: 48 @51616 has 2 MA's), (65, 51460), (68, 51430), (78, 51385), (80, 51349),

Gene: Landor_93 Start: 52502, Stop: 52185, Start Num: 41
Candidate Starts for Landor_93:
(Start: 41 @52502 has 60 MA's), (53, 52433), (59, 52367), (67, 52304), (78, 52250), (80, 52214),

Gene: Lilbunny_99 Start: 49513, Stop: 49181, Start Num: 41
Candidate Starts for Lilbunny_99:
(Start: 41 @49513 has 60 MA's), (Start: 48 @49486 has 2 MA's), (65, 49330), (70, 49291), (78, 49252), (80, 49216),

Gene: Luchador_97 Start: 52062, Stop: 51730, Start Num: 43
Candidate Starts for Luchador_97:
(Start: 38 @52080 has 3 MA's), (Start: 43 @52062 has 4 MA's), (53, 51993), (60, 51921), (61, 51912), (67, 51858), (70, 51843), (80, 51768),

Gene: McFly_102 Start: 51273, Stop: 50941, Start Num: 41
Candidate Starts for McFly_102:
(Start: 41 @51273 has 60 MA's), (Start: 48 @51246 has 2 MA's), (65, 51090), (70, 51051), (78, 51012), (80, 50976),

Gene: MegTheThird_93 Start: 51263, Stop: 50913, Start Num: 39
Candidate Starts for MegTheThird_93:
(Start: 39 @51263 has 2 MA's), (47, 51236), (53, 51185), (62, 51098), (63, 51095), (78, 50993), (80, 50951),

Gene: Minispark_96 Start: 51406, Stop: 51035, Start Num: 39
Candidate Starts for Minispark_96:
(Start: 39 @51406 has 2 MA's), (42, 51394), (53, 51310), (60, 51238), (62, 51223), (66, 51184), (78, 51115), (80, 51073),

Gene: Neeharika16_99 Start: 50690, Stop: 50358, Start Num: 41
Candidate Starts for Neeharika16_99:
(Start: 41 @50690 has 60 MA's), (Start: 48 @50663 has 2 MA's), (65, 50507), (70, 50468), (78, 50429), (80, 50393),

Gene: Newrala_102 Start: 51372, Stop: 51040, Start Num: 41
Candidate Starts for Newrala_102:
(Start: 41 @51372 has 60 MA's), (Start: 48 @51345 has 2 MA's), (65, 51189), (70, 51150), (78, 51111), (80, 51075),

Gene: NothingSpecial_89 Start: 51297, Stop: 50974, Start Num: 38
Candidate Starts for NothingSpecial_89:
(Start: 38 @51297 has 3 MA's), (Start: 48 @51270 has 2 MA's), (60, 51147), (65, 51111), (67, 51087), (78, 51039), (80, 51003),

Gene: Odin_96 Start: 51483, Stop: 51175, Start Num: 48
Candidate Starts for Odin_96:
(Start: 41 @51501 has 60 MA's), (Start: 48 @51483 has 2 MA's), (51, 51453), (67, 51300), (74, 51255), (78, 51246), (80, 51210),

Gene: Ph8s_100 Start: 51547, Stop: 51239, Start Num: 48
Candidate Starts for Ph8s_100:
(19, 51664), (20, 51661), (Start: 41 @51565 has 60 MA's), (Start: 48 @51547 has 2 MA's), (67, 51364), (74, 51319), (77, 51313), (78, 51310), (80, 51274),

Gene: Phaded_88 Start: 52515, Stop: 52198, Start Num: 41
Candidate Starts for Phaded_88:
(Start: 41 @52515 has 60 MA's), (53, 52446), (59, 52380), (67, 52317), (78, 52263), (80, 52227),

Gene: Pharaoh_81 Start: 49009, Stop: 48674, Start Num: 40
Candidate Starts for Pharaoh_81:
(36, 49021), (Start: 40 @49009 has 2 MA's), (45, 48988), (53, 48928), (67, 48796), (72, 48763), (80, 48706),

Gene: Phlei_77 Start: 47718, Stop: 47371, Start Num: 41
Candidate Starts for Phlei_77:
(Start: 41 @47718 has 60 MA's), (53, 47640), (54, 47631), (57, 47616), (76, 47454), (79, 47421), (81, 47400),

Gene: Pmask_100 Start: 51382, Stop: 51050, Start Num: 41
Candidate Starts for Pmask_100:
(Start: 41 @51382 has 60 MA's), (Start: 48 @51355 has 2 MA's), (65, 51199), (78, 51121), (80, 51085),

Gene: Polyphemus_93 Start: 49196, Stop: 48864, Start Num: 41
Candidate Starts for Polyphemus_93:
(28, 49271), (Start: 37 @49208 has 2 MA's), (Start: 41 @49196 has 60 MA's), (Start: 48 @49169 has 2 MA's), (65, 49013), (70, 48974), (78, 48935), (80, 48899),

Gene: Priamo_101 Start: 50425, Stop: 50093, Start Num: 41
Candidate Starts for Priamo_101:
(21, 50521), (Start: 37 @50437 has 2 MA's), (Start: 41 @50425 has 60 MA's), (Start: 48 @50398 has 2 MA's), (65, 50242), (70, 50203), (78, 50164), (80, 50128),

Gene: Pukovnik_89 Start: 51834, Stop: 51508, Start Num: 41
Candidate Starts for Pukovnik_89:
(Start: 41 @51834 has 60 MA's), (49, 51801), (56, 51738), (59, 51690), (67, 51627), (78, 51573), (80, 51537),

Gene: Rahalelujah_98 Start: 51421, Stop: 51050, Start Num: 39
Candidate Starts for Rahalelujah_98:
(Start: 39 @51421 has 2 MA's), (42, 51409), (53, 51325), (60, 51253), (62, 51238), (66, 51199), (78, 51130), (80, 51088),

Gene: Refuge_92 Start: 52220, Stop: 51888, Start Num: 43
Candidate Starts for Refuge_92:
(1, 52604), (2, 52577), (3, 52562), (4, 52556), (5, 52535), (6, 52508), (7, 52502), (8, 52421), (9, 52403), (14, 52349), (16, 52340), (22, 52328), (27, 52310), (36, 52247), (Start: 43 @52220 has 4 MA's), (45, 52205), (Start: 48 @52196 has 2 MA's), (53, 52145), (58, 52115), (59, 52079), (64, 52049), (67, 52013), (68, 52007), (77, 51962), (80, 51923),

Gene: Rifter_104 Start: 50424, Stop: 50092, Start Num: 41
Candidate Starts for Rifter_104:

(Start: 37 @50436 has 2 MA's), (Start: 41 @50424 has 60 MA's), (Start: 48 @50397 has 2 MA's), (65, 50241), (68, 50211), (78, 50163), (80, 50127),

Gene: Roksolana_106 Start: 51476, Stop: 51144, Start Num: 41
Candidate Starts for Roksolana_106:
(Start: 41 @51476 has 60 MA's), (Start: 48 @51449 has 2 MA's), (65, 51293), (70, 51254), (78, 51215), (80, 51179),

Gene: Smeagan_97 Start: 52047, Stop: 51745, Start Num: 41
Candidate Starts for Smeagan_97:
(12, 52185), (Start: 41 @52047 has 60 MA's), (Start: 48 @52008 has 2 MA's), (54, 51948), (65, 51852), (67, 51828), (71, 51810), (73, 51795),

Gene: SmellyB_103 Start: 50928, Stop: 50596, Start Num: 41
Candidate Starts for SmellyB_103:
(Start: 41 @50928 has 60 MA's), (Start: 48 @50901 has 2 MA's), (65, 50745), (70, 50706), (78, 50667), (80, 50631),

Gene: SororFago_98 Start: 52138, Stop: 51785, Start Num: 38
Candidate Starts for SororFago_98:
(35, 52156), (Start: 38 @52138 has 3 MA's), (46, 52099), (58, 52018), (61, 51967), (67, 51913), (70, 51898), (80, 51823),

Gene: Steamy_92 Start: 52060, Stop: 51728, Start Num: 40
Candidate Starts for Steamy_92:
(Start: 40 @52060 has 2 MA's), (45, 52039), (50, 52006), (53, 51979), (55, 51964), (67, 51847), (80, 51757),

Gene: Sunhee_102 Start: 50973, Stop: 50626, Start Num: 38
Candidate Starts for Sunhee_102:
(15, 51078), (25, 51054), (Start: 38 @50973 has 3 MA's), (53, 50880), (54, 50871), (58, 50850), (59, 50814), (61, 50799), (67, 50745), (70, 50730), (77, 50697), (80, 50658),

Gene: SuperAwesome_102 Start: 51433, Stop: 51089, Start Num: 37
Candidate Starts for SuperAwesome_102:
(21, 51517), (Start: 37 @51433 has 2 MA's), (Start: 41 @51421 has 60 MA's), (Start: 48 @51394 has 2 MA's), (65, 51238), (78, 51160), (80, 51124),

Gene: SuperCallie99_97 Start: 50848, Stop: 50516, Start Num: 41
Candidate Starts for SuperCallie99_97:
(Start: 37 @50860 has 2 MA's), (Start: 41 @50848 has 60 MA's), (Start: 48 @50821 has 2 MA's), (65, 50665), (78, 50587), (80, 50551),

Gene: Superchunk_99 Start: 51590, Stop: 51264, Start Num: 41
Candidate Starts for Superchunk_99:
(Start: 41 @51590 has 60 MA's), (Start: 48 @51572 has 2 MA's), (51, 51542), (67, 51389), (74, 51344), (78, 51335), (80, 51299),

Gene: SwirlSquare_100 Start: 51042, Stop: 50599, Start Num: 20
Candidate Starts for SwirlSquare_100:
(19, 51045), (20, 51042), (Start: 41 @50946 has 60 MA's), (Start: 48 @50907 has 2 MA's), (59, 50790), (68, 50718), (74, 50679), (80, 50634),

Gene: Temprado_104 Start: 51265, Stop: 50933, Start Num: 41
Candidate Starts for Temprado_104:
(Start: 41 @51265 has 60 MA's), (Start: 48 @51238 has 2 MA's), (65, 51082), (70, 51043), (78, 51004), (80, 50968),

Gene: Toaka_96 Start: 51786, Stop: 51364, Start Num: 13
Candidate Starts for Toaka_96:
(Start: 13 @51786 has 2 MA's), (17, 51774), (18, 51771), (Start: 40 @51675 has 2 MA's), (44, 51660), (53, 51585), (54, 51576), (62, 51498),

Gene: ToneTone_99 Start: 50816, Stop: 50484, Start Num: 41
Candidate Starts for ToneTone_99:
(Start: 41 @50816 has 60 MA's), (Start: 48 @50789 has 2 MA's), (65, 50633), (70, 50594), (78, 50555), (80, 50519),

Gene: Tristan_92 Start: 52303, Stop: 51983, Start Num: 41
Candidate Starts for Tristan_92:
(Start: 41 @52303 has 60 MA's), (53, 52234), (59, 52168), (67, 52105), (78, 52054), (80, 52018),

Gene: Tucker_104 Start: 51019, Stop: 50687, Start Num: 41
Candidate Starts for Tucker_104:
(Start: 41 @51019 has 60 MA's), (Start: 48 @50992 has 2 MA's), (65, 50836), (70, 50797), (78, 50758), (80, 50722),

Gene: Vanisoa_93 Start: 52085, Stop: 51657, Start Num: 13
Candidate Starts for Vanisoa_93:
(Start: 13 @52085 has 2 MA's), (23, 52061), (24, 52058), (26, 52049), (Start: 40 @51968 has 2 MA's), (53, 51878), (55, 51863), (59, 51812), (62, 51791),

Gene: VohminGhazi_103 Start: 50929, Stop: 50597, Start Num: 41
Candidate Starts for VohminGhazi_103:
(Start: 41 @50929 has 60 MA's), (Start: 48 @50902 has 2 MA's), (65, 50746), (70, 50707), (78, 50668), (80, 50632),

Gene: Wiks_103 Start: 50896, Stop: 50564, Start Num: 41
Candidate Starts for Wiks_103:
(Start: 41 @50896 has 60 MA's), (Start: 48 @50869 has 2 MA's), (65, 50713), (70, 50674), (78, 50635), (80, 50599),

Gene: WorldCup_97 Start: 51507, Stop: 51136, Start Num: 39
Candidate Starts for WorldCup_97:
(Start: 39 @51507 has 2 MA's), (42, 51495), (53, 51411), (60, 51339), (62, 51324), (66, 51285), (78, 51216), (80, 51174),

Gene: WunderPhul_92 Start: 47498, Stop: 47166, Start Num: 41
Candidate Starts for WunderPhul_92:
(Start: 41 @47498 has 60 MA's), (Start: 48 @47471 has 2 MA's), (65, 47315), (70, 47276), (78, 47237), (80, 47201),

Gene: Yokurt_102 Start: 50896, Stop: 50564, Start Num: 41
Candidate Starts for Yokurt_102:
(Start: 41 @50896 has 60 MA's), (Start: 48 @50869 has 2 MA's), (65, 50713), (70, 50674), (78, 50635), (80, 50599),

Gene: Zaka_104 Start: 50896, Stop: 50564, Start Num: 41
Candidate Starts for Zaka_104:
(Start: 41 @50896 has 60 MA's), (Start: 48 @50869 has 2 MA's), (65, 50713), (70, 50674), (78, 50635), (80, 50599),

Gene: Zimmer_91 Start: 51677, Stop: 51342, Start Num: 43
Candidate Starts for Zimmer_91:
(29, 51749), (36, 51704), (Start: 43 @51677 has 4 MA's), (53, 51599), (58, 51569), (64, 51503), (67, 51467), (74, 51422), (77, 51416), (80, 51377),

Gene: Zulu_104 Start: 51273, Stop: 50941, Start Num: 41
Candidate Starts for Zulu_104:
(Start: 41 @51273 has 60 MA's), (Start: 48 @51246 has 2 MA's), (65, 51090), (70, 51051), (78, 51012), (80, 50976),