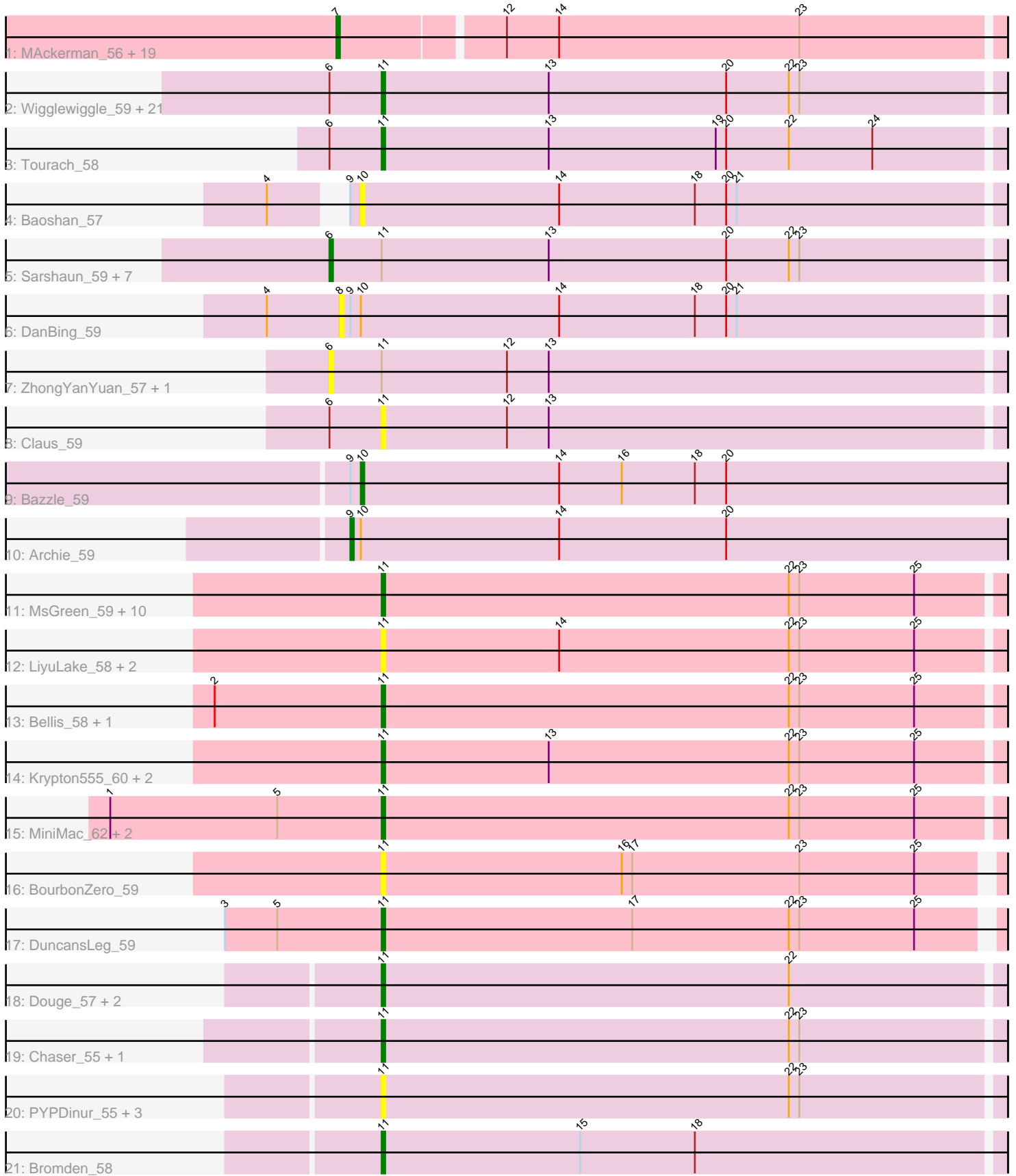


Pham 212502



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 212502 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212502 has 92 members, 25 are drafts.

Phages represented in each track:

- Track 1 : MAckerman_56, JoeDirt_55, Poochiewood_57, CicholasNage_56, Enceladus_55, DirkDirk_54, Wamburgxpress_56, OhShagHennessy_54, Calm_57, Wyatt2_58, Silverleaf_57, Appletree2_57, Zaria_57, AvadaKedavra_57, Acquire49_57, Rose5_57, Tyson_57, LeBron_56, UPIE_56, Halena_55
- Track 2 : Wigglewiggles_59, Zakai_60, Loadrie_58, Vetrix_59, Crossroads_59, Finemlucis_59, Lewan_60, Gabriela_56, Itos_58, MkaliMitinis3_60, Winky_59, Breezona_59, Gardann_60, Wilder_60, Kahlid_59, Rumpelstiltskin_58, BigCheese_59, Faith1_59, GuuelaD_58, LilDestine_59, DrSeegs_59, Miley16_59
- Track 3 : Tourach_58
- Track 4 : Baoshan_57
- Track 5 : Sarshaun_59, Soap141_59, Nicholasp3_59, BobsGarage_59, Underpass_50, SoJulia_61, Netyap_60, Hafay_60
- Track 6 : DanBing_59
- Track 7 : ZhongYanYuan_57, DHan_60
- Track 8 : Claus_59
- Track 9 : Bazzle_59
- Track 10 : Archie_59
- Track 11 : MsGreen_59, Jobypre_59, Clautastrophe_58, Red305_59, Lumos_60, Kingsolomon_58, Whirlwind_59, TriFive_59, Snenia_58, Jubie_58, Nicholas_58
- Track 12 : LiyuLake_58, Ellson_58, KirDoubleO7_57
- Track 13 : Bellis_58, Moostard_58
- Track 14 : Krypton555_60, Samty_59, Finnry_59
- Track 15 : MiniMac_62, MiniLon_62, Lolly9_58
- Track 16 : BourbonZero_59
- Track 17 : DuncansLeg_59
- Track 18 : Douge_57, FarmResident_59, Quby_57
- Track 19 : Chaser_55, Kropertea_55
- Track 20 : PYPDinur_55, BrainDrainer_57, Sheng711_57, Douzhi_57
- Track 21 : Bromden_58

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 43 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bellis_58, BigCheese_59, BourbonZero_59, BrainDrainer_57, Breezona_59, Bromden_58, Chaser_55, Claus_59, Clautastrophe_58, Crossroads_59, Douge_57, Douzhi_57, DrSeegs_59, DuncansLeg_59, Ellson_58, Faith1_59, FarmResident_59, Finemlucis_59, Finnry_59, Gabriela_56, Gardann_60, GuuelaD_58, Itos_58, Jobypre_59, Jubie_58, Kahlid_59, Kingsolomon_58, KirDoubleO7_57, Kropertea_55, Krypton555_60, Lewan_60, LilDestine_59, LiyuLake_58, Loadrie_58, Lolly9_58, Lumos_60, Miley16_59, MiniLon_62, MiniMac_62, MkaliMitinis3_60, Moostard_58, MsGreen_59, Nicholas_58, PYPDinur_55, Quby_57, Red305_59, Rumpelstiltskin_58, Samty_59, Sheng711_57, Snenia_58, Tourach_58, TriFive_59, Vetrix_59, Whirlwind_59, Wigglewiggle_59, Wilder_60, Winky_59, Zakai_60,

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

- BobsGarage_59, DHan_60, Hafay_60, Netyap_60, Nicholasp3_59, Sarshaun_59, SoJulia_61, Soap141_59, Underpass_50, ZhongYanYuan_57,

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

- Acquire49_57, Appletree2_57, Archie_59, AvadaKedavra_57, Baoshan_57, Bazzle_59, Calm_57, CicholasNage_56, DanBing_59, DirkDirk_54, Enceladus_55, Halena_55, JoeDirt_55, LeBron_56, MAckerman_56, OhShagHennessy_54, Poochiewood_57, Rose5_57, Silverleaf_57, Tyson_57, UPIE_56, Wamburgrxpress_56, Wyatt2_58, Zaria_57,

Summary by start number:

Start 6:

- Found in 34 of 92 (37.0%) of genes in pham
- Manual Annotations of this start: 3 of 67
- Called 29.4% of time when present
- Phage (with cluster) where this start called: BobsGarage_59 (L2), DHan_60 (L2), Hafay_60 (L2), Netyap_60 (L2), Nicholasp3_59 (L2), Sarshaun_59 (L2), SoJulia_61 (L2), Soap141_59 (L2), Underpass_50 (L2), ZhongYanYuan_57 (L2),

Start 7:

- Found in 20 of 92 (21.7%) of genes in pham
- Manual Annotations of this start: 19 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49_57 (L1), Appletree2_57 (L1), AvadaKedavra_57 (L1), Calm_57 (L1), CicholasNage_56 (L1), DirkDirk_54 (L1), Enceladus_55 (L1), Halena_55 (L1), JoeDirt_55 (L1), LeBron_56 (L1), MAckerman_56 (L1), OhShagHennessy_54 (L1), Poochiewood_57 (L1), Rose5_57 (L1), Silverleaf_57 (L1), Tyson_57 (L1), UPIE_56 (L1), Wamburgrxpress_56 (L1), Wyatt2_58 (L1), Zaria_57 (L1),

Start 8:

- Found in 1 of 92 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DanBing_59 (L2),

Start 9:

- Found in 4 of 92 (4.3%) of genes in pham

- Manual Annotations of this start: 1 of 67
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Archie_59 (L2),

Start 10:

- Found in 4 of 92 (4.3%) of genes in pham
- Manual Annotations of this start: 1 of 67
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Baoshan_57 (L2), Bazzle_59 (L2),

Start 11:

- Found in 68 of 92 (73.9%) of genes in pham
- Manual Annotations of this start: 43 of 67
- Called 85.3% of time when present
- Phage (with cluster) where this start called: Bellis_58 (L3), BigCheese_59 (L2), BourbonZero_59 (L3), BrainDrainer_57 (L4), Breezona_59 (L2), Bromden_58 (L4), Chaser_55 (L4), Claus_59 (L2), Clautastrophe_58 (L3), Crossroads_59 (L2), Douge_57 (L4), Douzhi_57 (L4), DrSeegs_59 (L2), DuncansLeg_59 (L3), Ellson_58 (L3), Faith1_59 (L2), FarmResident_59 (L4), Finemlucis_59 (L2), Finnry_59 (L3), Gabriela_56 (L2), Gardann_60 (L2), GuuelaD_58 (L2), Itos_58 (L2), Jobypre_59 (L3), Jubie_58 (L3), Kahlid_59 (L2), Kingsolomon_58 (L3), KirDoubleO7_57 (L3), Kropertea_55 (L4), Krypton555_60 (L3), Lewan_60 (L2), LilDestine_59 (L2), LiyuLake_58 (L3), Loadrie_58 (L2), Lolly9_58 (L3), Lumos_60 (L3), Miley16_59 (L2), MiniLon_62 (L3), MiniMac_62 (L3), MkaliMitinis3_60 (L2), Moostard_58 (L3), MsGreen_59 (L3), Nicholas_58 (L3), PYPDinur_55 (L4), Quby_57 (L4), Red305_59 (L3), Rumpelstiltskin_58 (L2), Samty_59 (L3), Sheng711_57 (L4), Snenia_58 (L3), Tourach_58 (L2), TriFive_59 (L3), Vetric_59 (L2), Whirlwind_59 (L3), Wigglewiggles_59 (L2), Wilder_60 (L2), Winky_59 (L2), Zakai_60 (L2),

Summary by clusters:

There are 4 clusters represented in this pham: L4, L2, L3, L1,

Info for manual annotations of cluster L1:

- Start number 7 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 6 was manually annotated 3 times for cluster L2.
- Start number 9 was manually annotated 1 time for cluster L2.
- Start number 10 was manually annotated 1 time for cluster L2.
- Start number 11 was manually annotated 23 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 11 was manually annotated 17 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 11 was manually annotated 3 times for cluster L4.

Gene Information:

Gene: Acquire49_57 Start: 41035, Stop: 41220, Start Num: 7

Candidate Starts for Acquire49_57:

(Start: 7 @41035 has 19 MA's), (12, 41080), (14, 41095), (23, 41164),

Gene: Appletree2_57 Start: 41327, Stop: 41512, Start Num: 7

Candidate Starts for Appletree2_57:

(Start: 7 @41327 has 19 MA's), (12, 41372), (14, 41387), (23, 41456),

Gene: Archie_59 Start: 43324, Stop: 43512, Start Num: 9

Candidate Starts for Archie_59:

(Start: 9 @43324 has 1 MA's), (Start: 10 @43327 has 1 MA's), (14, 43384), (20, 43432),

Gene: AvadaKedavra_57 Start: 41108, Stop: 41293, Start Num: 7

Candidate Starts for AvadaKedavra_57:

(Start: 7 @41108 has 19 MA's), (12, 41153), (14, 41168), (23, 41237),

Gene: Baoshan_57 Start: 43019, Stop: 43201, Start Num: 10

Candidate Starts for Baoshan_57:

(4, 43001), (Start: 9 @43016 has 1 MA's), (Start: 10 @43019 has 1 MA's), (14, 43076), (18, 43115), (20, 43124), (21, 43127),

Gene: Bazzle_59 Start: 43397, Stop: 43582, Start Num: 10

Candidate Starts for Bazzle_59:

(Start: 9 @43394 has 1 MA's), (Start: 10 @43397 has 1 MA's), (14, 43454), (16, 43472), (18, 43493), (20, 43502),

Gene: Bellis_58 Start: 43420, Stop: 43596, Start Num: 11

Candidate Starts for Bellis_58:

(2, 43372), (Start: 11 @43420 has 43 MA's), (22, 43537), (23, 43540), (25, 43573),

Gene: BigCheese_59 Start: 43082, Stop: 43258, Start Num: 11

Candidate Starts for BigCheese_59:

(Start: 6 @43067 has 3 MA's), (Start: 11 @43082 has 43 MA's), (13, 43130), (20, 43181), (22, 43199), (23, 43202),

Gene: BobsGarage_59 Start: 43067, Stop: 43258, Start Num: 6

Candidate Starts for BobsGarage_59:

(Start: 6 @43067 has 3 MA's), (Start: 11 @43082 has 43 MA's), (13, 43130), (20, 43181), (22, 43199), (23, 43202),

Gene: BourbonZero_59 Start: 43468, Stop: 43641, Start Num: 11

Candidate Starts for BourbonZero_59:

(Start: 11 @43468 has 43 MA's), (16, 43537), (17, 43540), (23, 43588), (25, 43621),

Gene: BrainDrainer_57 Start: 41963, Stop: 42139, Start Num: 11

Candidate Starts for BrainDrainer_57:

(Start: 11 @41963 has 43 MA's), (22, 42080), (23, 42083),

Gene: Breezona_59 Start: 43082, Stop: 43258, Start Num: 11

Candidate Starts for Breezona_59:

(Start: 6 @43067 has 3 MA's), (Start: 11 @43082 has 43 MA's), (13, 43130), (20, 43181), (22, 43199), (23, 43202),

Gene: Bromden_58 Start: 42623, Stop: 42799, Start Num: 11

Candidate Starts for Bromden_58:

(Start: 11 @42623 has 43 MA's), (15, 42680), (18, 42713),

Gene: Calm_57 Start: 41050, Stop: 41235, Start Num: 7

Candidate Starts for Calm_57:

(Start: 7 @41050 has 19 MA's), (12, 41095), (14, 41110), (23, 41179),

Gene: Chaser_55 Start: 41720, Stop: 41896, Start Num: 11

Candidate Starts for Chaser_55:

(Start: 11 @41720 has 43 MA's), (22, 41837), (23, 41840),

Gene: CicholasNage_56 Start: 41071, Stop: 41256, Start Num: 7

Candidate Starts for CicholasNage_56:

(Start: 7 @41071 has 19 MA's), (12, 41116), (14, 41131), (23, 41200),

Gene: Claus_59 Start: 43163, Stop: 43339, Start Num: 11

Candidate Starts for Claus_59:

(Start: 6 @43148 has 3 MA's), (Start: 11 @43163 has 43 MA's), (12, 43199), (13, 43211),

Gene: Clautastrophe_58 Start: 43417, Stop: 43593, Start Num: 11

Candidate Starts for Clautastrophe_58:

(Start: 11 @43417 has 43 MA's), (22, 43534), (23, 43537), (25, 43570),

Gene: Crossroads_59 Start: 43160, Stop: 43336, Start Num: 11

Candidate Starts for Crossroads_59:

(Start: 6 @43145 has 3 MA's), (Start: 11 @43160 has 43 MA's), (13, 43208), (20, 43259), (22, 43277), (23, 43280),

Gene: DHan_60 Start: 43048, Stop: 43239, Start Num: 6

Candidate Starts for DHan_60:

(Start: 6 @43048 has 3 MA's), (Start: 11 @43063 has 43 MA's), (12, 43099), (13, 43111),

Gene: DanBing_59 Start: 43020, Stop: 43208, Start Num: 8

Candidate Starts for DanBing_59:

(4, 42999), (8, 43020), (Start: 9 @43023 has 1 MA's), (Start: 10 @43026 has 1 MA's), (14, 43083), (18, 43122), (20, 43131), (21, 43134),

Gene: DirkDirk_54 Start: 40913, Stop: 41098, Start Num: 7

Candidate Starts for DirkDirk_54:

(Start: 7 @40913 has 19 MA's), (12, 40958), (14, 40973), (23, 41042),

Gene: Douge_57 Start: 41714, Stop: 41890, Start Num: 11

Candidate Starts for Douge_57:

(Start: 11 @41714 has 43 MA's), (22, 41831),

Gene: Douzhi_57 Start: 41791, Stop: 41967, Start Num: 11

Candidate Starts for Douzhi_57:

(Start: 11 @41791 has 43 MA's), (22, 41908), (23, 41911),

Gene: DrSeegs_59 Start: 43082, Stop: 43258, Start Num: 11

Candidate Starts for DrSeegs_59:

(Start: 6 @43067 has 3 MA's), (Start: 11 @43082 has 43 MA's), (13, 43130), (20, 43181), (22, 43199), (23, 43202),

Gene: DuncansLeg_59 Start: 43456, Stop: 43629, Start Num: 11
Candidate Starts for DuncansLeg_59:
(3, 43411), (5, 43426), (Start: 11 @43456 has 43 MA's), (17, 43528), (22, 43573), (23, 43576), (25, 43609),

Gene: Ellson_58 Start: 43481, Stop: 43657, Start Num: 11
Candidate Starts for Ellson_58:
(Start: 11 @43481 has 43 MA's), (14, 43532), (22, 43598), (23, 43601), (25, 43634),

Gene: Enceladus_55 Start: 40908, Stop: 41093, Start Num: 7
Candidate Starts for Enceladus_55:
(Start: 7 @40908 has 19 MA's), (12, 40953), (14, 40968), (23, 41037),

Gene: Faith1_59 Start: 43082, Stop: 43258, Start Num: 11
Candidate Starts for Faith1_59:
(Start: 6 @43067 has 3 MA's), (Start: 11 @43082 has 43 MA's), (13, 43130), (20, 43181), (22, 43199), (23, 43202),

Gene: FarmResident_59 Start: 41754, Stop: 41930, Start Num: 11
Candidate Starts for FarmResident_59:
(Start: 11 @41754 has 43 MA's), (22, 41871),

Gene: Finemlucis_59 Start: 43403, Stop: 43579, Start Num: 11
Candidate Starts for Finemlucis_59:
(Start: 6 @43388 has 3 MA's), (Start: 11 @43403 has 43 MA's), (13, 43451), (20, 43502), (22, 43520), (23, 43523),

Gene: Finnry_59 Start: 43681, Stop: 43857, Start Num: 11
Candidate Starts for Finnry_59:
(Start: 11 @43681 has 43 MA's), (13, 43729), (22, 43798), (23, 43801), (25, 43834),

Gene: Gabriela_56 Start: 41532, Stop: 41708, Start Num: 11
Candidate Starts for Gabriela_56:
(Start: 6 @41517 has 3 MA's), (Start: 11 @41532 has 43 MA's), (13, 41580), (20, 41631), (22, 41649), (23, 41652),

Gene: Gardann_60 Start: 43118, Stop: 43294, Start Num: 11
Candidate Starts for Gardann_60:
(Start: 6 @43103 has 3 MA's), (Start: 11 @43118 has 43 MA's), (13, 43166), (20, 43217), (22, 43235), (23, 43238),

Gene: GuuelaD_58 Start: 43197, Stop: 43373, Start Num: 11
Candidate Starts for GuuelaD_58:
(Start: 6 @43182 has 3 MA's), (Start: 11 @43197 has 43 MA's), (13, 43245), (20, 43296), (22, 43314), (23, 43317),

Gene: Hafay_60 Start: 43171, Stop: 43362, Start Num: 6
Candidate Starts for Hafay_60:
(Start: 6 @43171 has 3 MA's), (Start: 11 @43186 has 43 MA's), (13, 43234), (20, 43285), (22, 43303), (23, 43306),

Gene: Halena_55 Start: 40950, Stop: 41135, Start Num: 7

Candidate Starts for Halena_55:

(Start: 7 @40950 has 19 MA's), (12, 40995), (14, 41010), (23, 41079),

Gene: Itos_58 Start: 41988, Stop: 42164, Start Num: 11

Candidate Starts for Itos_58:

(Start: 6 @41973 has 3 MA's), (Start: 11 @41988 has 43 MA's), (13, 42036), (20, 42087), (22, 42105), (23, 42108),

Gene: Jobypre_59 Start: 43417, Stop: 43593, Start Num: 11

Candidate Starts for Jobypre_59:

(Start: 11 @43417 has 43 MA's), (22, 43534), (23, 43537), (25, 43570),

Gene: JoeDirt_55 Start: 40908, Stop: 41093, Start Num: 7

Candidate Starts for JoeDirt_55:

(Start: 7 @40908 has 19 MA's), (12, 40953), (14, 40968), (23, 41037),

Gene: Jubie_58 Start: 43552, Stop: 43728, Start Num: 11

Candidate Starts for Jubie_58:

(Start: 11 @43552 has 43 MA's), (22, 43669), (23, 43672), (25, 43705),

Gene: Kahlid_59 Start: 43088, Stop: 43264, Start Num: 11

Candidate Starts for Kahlid_59:

(Start: 6 @43073 has 3 MA's), (Start: 11 @43088 has 43 MA's), (13, 43136), (20, 43187), (22, 43205), (23, 43208),

Gene: Kingsolomon_58 Start: 43424, Stop: 43600, Start Num: 11

Candidate Starts for Kingsolomon_58:

(Start: 11 @43424 has 43 MA's), (22, 43541), (23, 43544), (25, 43577),

Gene: KirDoubleO7_57 Start: 43455, Stop: 43631, Start Num: 11

Candidate Starts for KirDoubleO7_57:

(Start: 11 @43455 has 43 MA's), (14, 43506), (22, 43572), (23, 43575), (25, 43608),

Gene: Kropertea_55 Start: 41901, Stop: 42074, Start Num: 11

Candidate Starts for Kropertea_55:

(Start: 11 @41901 has 43 MA's), (22, 42015), (23, 42018),

Gene: Krypton555_60 Start: 43649, Stop: 43825, Start Num: 11

Candidate Starts for Krypton555_60:

(Start: 11 @43649 has 43 MA's), (13, 43697), (22, 43766), (23, 43769), (25, 43802),

Gene: LeBron_56 Start: 40953, Stop: 41138, Start Num: 7

Candidate Starts for LeBron_56:

(Start: 7 @40953 has 19 MA's), (12, 40998), (14, 41013), (23, 41082),

Gene: Lewan_60 Start: 43142, Stop: 43318, Start Num: 11

Candidate Starts for Lewan_60:

(Start: 6 @43127 has 3 MA's), (Start: 11 @43142 has 43 MA's), (13, 43190), (20, 43241), (22, 43259), (23, 43262),

Gene: LilDestine_59 Start: 43115, Stop: 43291, Start Num: 11

Candidate Starts for LilDestine_59:

(Start: 6 @43100 has 3 MA's), (Start: 11 @43115 has 43 MA's), (13, 43163), (20, 43214), (22, 43232), (23, 43235),

Gene: LiyuLake_58 Start: 43471, Stop: 43647, Start Num: 11

Candidate Starts for LiyuLake_58:

(Start: 11 @43471 has 43 MA's), (14, 43522), (22, 43588), (23, 43591), (25, 43624),

Gene: Loadrie_58 Start: 43170, Stop: 43346, Start Num: 11

Candidate Starts for Loadrie_58:

(Start: 6 @43155 has 3 MA's), (Start: 11 @43170 has 43 MA's), (13, 43218), (20, 43269), (22, 43287), (23, 43290),

Gene: Lolly9_58 Start: 43242, Stop: 43418, Start Num: 11

Candidate Starts for Lolly9_58:

(1, 43164), (5, 43212), (Start: 11 @43242 has 43 MA's), (22, 43359), (23, 43362), (25, 43395),

Gene: Lumos_60 Start: 43414, Stop: 43590, Start Num: 11

Candidate Starts for Lumos_60:

(Start: 11 @43414 has 43 MA's), (22, 43531), (23, 43534), (25, 43567),

Gene: MAckerman_56 Start: 40943, Stop: 41128, Start Num: 7

Candidate Starts for MAckerman_56:

(Start: 7 @40943 has 19 MA's), (12, 40988), (14, 41003), (23, 41072),

Gene: Miley16_59 Start: 43082, Stop: 43258, Start Num: 11

Candidate Starts for Miley16_59:

(Start: 6 @43067 has 3 MA's), (Start: 11 @43082 has 43 MA's), (13, 43130), (20, 43181), (22, 43199), (23, 43202),

Gene: MiniLon_62 Start: 43243, Stop: 43419, Start Num: 11

Candidate Starts for MiniLon_62:

(1, 43165), (5, 43213), (Start: 11 @43243 has 43 MA's), (22, 43360), (23, 43363), (25, 43396),

Gene: MiniMac_62 Start: 43241, Stop: 43417, Start Num: 11

Candidate Starts for MiniMac_62:

(1, 43163), (5, 43211), (Start: 11 @43241 has 43 MA's), (22, 43358), (23, 43361), (25, 43394),

Gene: MkaliMitinis3_60 Start: 43154, Stop: 43330, Start Num: 11

Candidate Starts for MkaliMitinis3_60:

(Start: 6 @43139 has 3 MA's), (Start: 11 @43154 has 43 MA's), (13, 43202), (20, 43253), (22, 43271), (23, 43274),

Gene: Moostard_58 Start: 43420, Stop: 43596, Start Num: 11

Candidate Starts for Moostard_58:

(2, 43372), (Start: 11 @43420 has 43 MA's), (22, 43537), (23, 43540), (25, 43573),

Gene: MsGreen_59 Start: 43417, Stop: 43593, Start Num: 11

Candidate Starts for MsGreen_59:

(Start: 11 @43417 has 43 MA's), (22, 43534), (23, 43537), (25, 43570),

Gene: Netyap_60 Start: 43068, Stop: 43259, Start Num: 6

Candidate Starts for Netyap_60:

(Start: 6 @43068 has 3 MA's), (Start: 11 @43083 has 43 MA's), (13, 43131), (20, 43182), (22, 43200), (23, 43203),

Gene: Nicholas_58 Start: 43424, Stop: 43600, Start Num: 11
Candidate Starts for Nicholas_58:
(Start: 11 @43424 has 43 MA's), (22, 43541), (23, 43544), (25, 43577),

Gene: Nicholasp3_59 Start: 43103, Stop: 43294, Start Num: 6
Candidate Starts for Nicholasp3_59:
(Start: 6 @43103 has 3 MA's), (Start: 11 @43118 has 43 MA's), (13, 43166), (20, 43217), (22, 43235), (23, 43238),

Gene: OhShagHennessy_54 Start: 39938, Stop: 40123, Start Num: 7
Candidate Starts for OhShagHennessy_54:
(Start: 7 @39938 has 19 MA's), (12, 39983), (14, 39998), (23, 40067),

Gene: PYPDinur_55 Start: 41824, Stop: 42000, Start Num: 11
Candidate Starts for PYPDinur_55:
(Start: 11 @41824 has 43 MA's), (22, 41941), (23, 41944),

Gene: Pochiewood_57 Start: 41358, Stop: 41543, Start Num: 7
Candidate Starts for Pochiewood_57:
(Start: 7 @41358 has 19 MA's), (12, 41403), (14, 41418), (23, 41487),

Gene: Quby_57 Start: 41677, Stop: 41853, Start Num: 11
Candidate Starts for Quby_57:
(Start: 11 @41677 has 43 MA's), (22, 41794),

Gene: Red305_59 Start: 43417, Stop: 43593, Start Num: 11
Candidate Starts for Red305_59:
(Start: 11 @43417 has 43 MA's), (22, 43534), (23, 43537), (25, 43570),

Gene: Rose5_57 Start: 41370, Stop: 41555, Start Num: 7
Candidate Starts for Rose5_57:
(Start: 7 @41370 has 19 MA's), (12, 41415), (14, 41430), (23, 41499),

Gene: Rumpelstiltskin_58 Start: 42511, Stop: 42687, Start Num: 11
Candidate Starts for Rumpelstiltskin_58:
(Start: 6 @42496 has 3 MA's), (Start: 11 @42511 has 43 MA's), (13, 42559), (20, 42610), (22, 42628), (23, 42631),

Gene: Samty_59 Start: 43425, Stop: 43601, Start Num: 11
Candidate Starts for Samty_59:
(Start: 11 @43425 has 43 MA's), (13, 43473), (22, 43542), (23, 43545), (25, 43578),

Gene: Sarshaun_59 Start: 43163, Stop: 43354, Start Num: 6
Candidate Starts for Sarshaun_59:
(Start: 6 @43163 has 3 MA's), (Start: 11 @43178 has 43 MA's), (13, 43226), (20, 43277), (22, 43295), (23, 43298),

Gene: Sheng711_57 Start: 41801, Stop: 41977, Start Num: 11
Candidate Starts for Sheng711_57:
(Start: 11 @41801 has 43 MA's), (22, 41918), (23, 41921),

Gene: Silverleaf_57 Start: 41105, Stop: 41290, Start Num: 7
Candidate Starts for Silverleaf_57:
(Start: 7 @41105 has 19 MA's), (12, 41150), (14, 41165), (23, 41234),

Gene: Snenia_58 Start: 43418, Stop: 43594, Start Num: 11
Candidate Starts for Snenia_58:
(Start: 11 @43418 has 43 MA's), (22, 43535), (23, 43538), (25, 43571),

Gene: SoJulia_61 Start: 43332, Stop: 43523, Start Num: 6
Candidate Starts for SoJulia_61:
(Start: 6 @43332 has 3 MA's), (Start: 11 @43347 has 43 MA's), (13, 43395), (20, 43446), (22, 43464),
(23, 43467),

Gene: Soap141_59 Start: 43163, Stop: 43354, Start Num: 6
Candidate Starts for Soap141_59:
(Start: 6 @43163 has 3 MA's), (Start: 11 @43178 has 43 MA's), (13, 43226), (20, 43277), (22, 43295),
(23, 43298),

Gene: Tourach_58 Start: 43167, Stop: 43343, Start Num: 11
Candidate Starts for Tourach_58:
(Start: 6 @43152 has 3 MA's), (Start: 11 @43167 has 43 MA's), (13, 43215), (19, 43263), (20, 43266),
(22, 43284), (24, 43308),

Gene: TriFive_59 Start: 43417, Stop: 43593, Start Num: 11
Candidate Starts for TriFive_59:
(Start: 11 @43417 has 43 MA's), (22, 43534), (23, 43537), (25, 43570),

Gene: Tyson_57 Start: 41372, Stop: 41557, Start Num: 7
Candidate Starts for Tyson_57:
(Start: 7 @41372 has 19 MA's), (12, 41417), (14, 41432), (23, 41501),

Gene: UPIE_56 Start: 40922, Stop: 41107, Start Num: 7
Candidate Starts for UPIE_56:
(Start: 7 @40922 has 19 MA's), (12, 40967), (14, 40982), (23, 41051),

Gene: Underpass_50 Start: 38139, Stop: 38330, Start Num: 6
Candidate Starts for Underpass_50:
(Start: 6 @38139 has 3 MA's), (Start: 11 @38154 has 43 MA's), (13, 38202), (20, 38253), (22, 38271),
(23, 38274),

Gene: Vetrix_59 Start: 43122, Stop: 43298, Start Num: 11
Candidate Starts for Vetrix_59:
(Start: 6 @43107 has 3 MA's), (Start: 11 @43122 has 43 MA's), (13, 43170), (20, 43221), (22, 43239),
(23, 43242),

Gene: Wamburgrexpress_56 Start: 40938, Stop: 41123, Start Num: 7
Candidate Starts for Wamburgrexpress_56:
(Start: 7 @40938 has 19 MA's), (12, 40983), (14, 40998), (23, 41067),

Gene: Whirlwind_59 Start: 43235, Stop: 43411, Start Num: 11
Candidate Starts for Whirlwind_59:
(Start: 11 @43235 has 43 MA's), (22, 43352), (23, 43355), (25, 43388),

Gene: Wigglewiggle_59 Start: 43142, Stop: 43318, Start Num: 11

Candidate Starts for Wigglewiggle_59:

(Start: 6 @43127 has 3 MA's), (Start: 11 @43142 has 43 MA's), (13, 43190), (20, 43241), (22, 43259), (23, 43262),

Gene: Wilder_60 Start: 43088, Stop: 43264, Start Num: 11

Candidate Starts for Wilder_60:

(Start: 6 @43073 has 3 MA's), (Start: 11 @43088 has 43 MA's), (13, 43136), (20, 43187), (22, 43205), (23, 43208),

Gene: Winky_59 Start: 43082, Stop: 43258, Start Num: 11

Candidate Starts for Winky_59:

(Start: 6 @43067 has 3 MA's), (Start: 11 @43082 has 43 MA's), (13, 43130), (20, 43181), (22, 43199), (23, 43202),

Gene: Wyatt2_58 Start: 41370, Stop: 41555, Start Num: 7

Candidate Starts for Wyatt2_58:

(Start: 7 @41370 has 19 MA's), (12, 41415), (14, 41430), (23, 41499),

Gene: Zakai_60 Start: 43408, Stop: 43584, Start Num: 11

Candidate Starts for Zakai_60:

(Start: 6 @43393 has 3 MA's), (Start: 11 @43408 has 43 MA's), (13, 43456), (20, 43507), (22, 43525), (23, 43528),

Gene: Zaria_57 Start: 41050, Stop: 41235, Start Num: 7

Candidate Starts for Zaria_57:

(Start: 7 @41050 has 19 MA's), (12, 41095), (14, 41110), (23, 41179),

Gene: ZhongYanYuan_57 Start: 42962, Stop: 43153, Start Num: 6

Candidate Starts for ZhongYanYuan_57:

(Start: 6 @42962 has 3 MA's), (Start: 11 @42977 has 43 MA's), (12, 43013), (13, 43025),