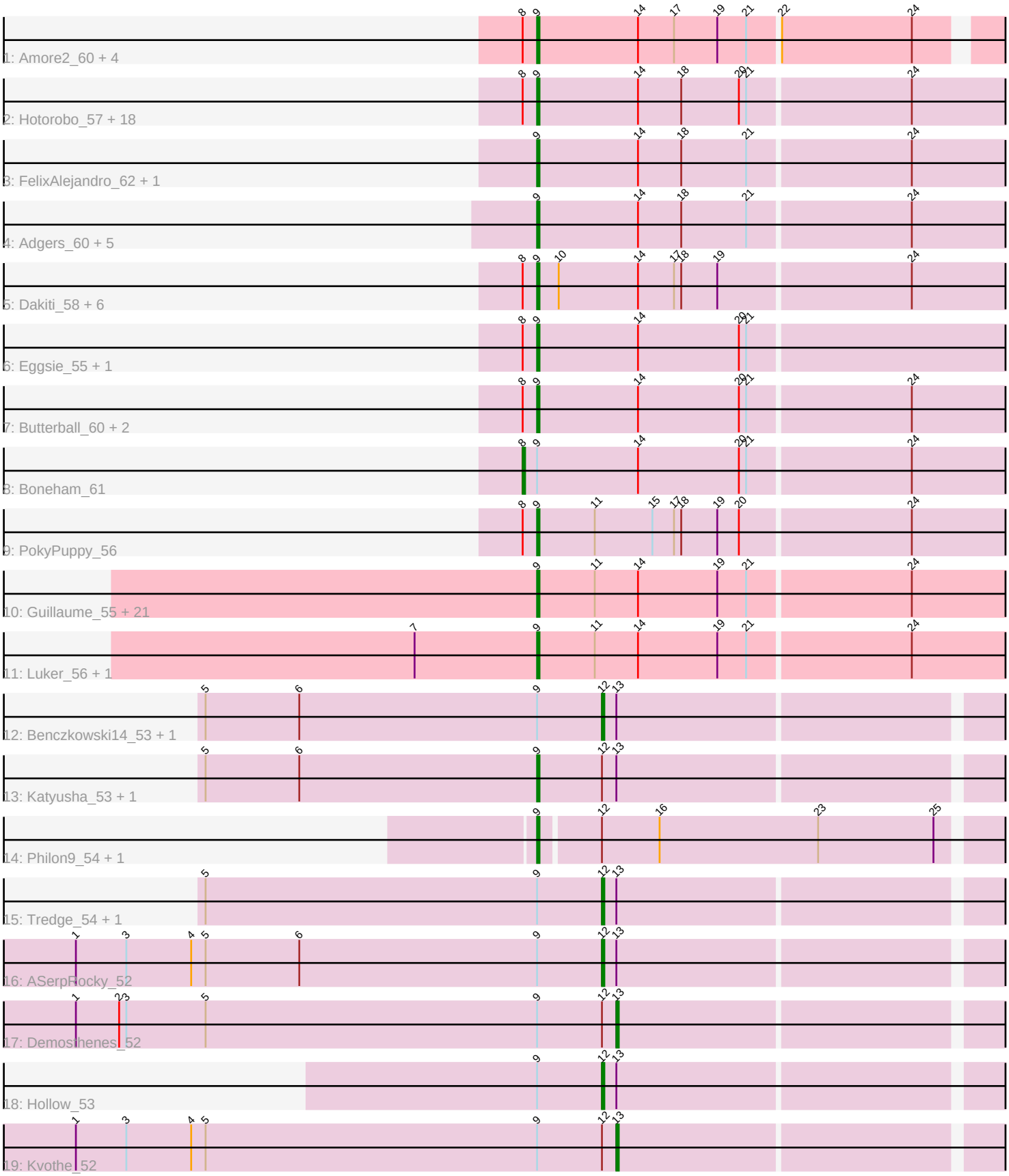
Pham 347523


1: Amore2_60 + 4
2: Hotorobo_57 + 18
3: FelixAlejandro_62 + 1
4: Adgers_60 + 5
5: Dakiti_58 + 6
6: Eggsie_55 + 1
7: Butterball_60 + 2
8: Boneham_61
9: PokyPuppy_56
10: Guillaume_55 + 21
11: Luker_56 + 1
12: Benczkowski14_53 + 1
13: Katyusha_53 + 1
14: Philon9_54 + 1
15: Tredge_54 + 1
16: ASerpRocky_52
17: Demosthenes_52
18: Hollow_53
19: Kvothe_52

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 347523 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347523 has 82 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Amore2_60, HayZem_60, GTE7_48, Austin_59, GMA7_49
• Track 2 : Hotorobo_57, Squibbles_56, CathyBurgh_57, BirksAndSocks_62, Barbochs_55, Exiguo_56, Beaver_60, RemRem_58, Lizzo_57, Sam12_56, John316_60, Monty_56, Kelzog_59, GourdThymes_57, Gorko_56, Ekhein_57, Breezic_57, Flakey_56, Worcestershire_56
• Track 3 : FelixAlejandro_62, Sombrero_58
• Track 4 : Adgers_60, Poland_62, Msay19_62, CinnamonToast_63, BillyBobJr_63, Jellybones_59
• Track 5 : Dakiti_58, BenoitCattle_57, PierreThree_56, Chelms_57, BigShaq_57, Crete_58, Linetti_57
• Track 6 : Eggsie_55, Diabla_61
• Track 7 : Butterball_60, RoyalG_57, SteveFrench_56
• Track 8 : Boneham_61
• Track 9 : PokyPuppy_56
• Track 10 : Guillaume_55, GalacticEye_55, Woes_55, Bianmat_55, Sticker17_55, Berries_55, Hello_55, Jams_55, Harambe_55, Lahirium_55, Shelley_55, Teal_55, Newt_56, Kaseim_55, MrWormie_55, Neoevie_55, Minos_56, Jormungandr_55, Charianelly_55, Nimi13_55, Damp_55, Lidong_55
• Track 11 : Luker_56, Hail2Pitt_54
• Track 12 : Benczkowski14_53, Niagara_53
• Track 13 : Katyusha_53, Teech_54
• Track 14 : Philon9_54, Vitaenoii_54
• Track 15 : Tredge_54, Teatealatte_54
• Track 16 : ASerpRocky_52
• Track 17 : Demosthenes_52
• Track 18 : Hollow_53
• Track 19 : Kvothe_52

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

The start number called the most often in the published annotations is 9, it was called in 68 of the 77 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Adgers_60, Amore2_60, Austin_59, Barbochs_55, Beaver_60, BenoitCattle_57, Berries_55, Bianmat_55, BigShaq_57, BillyBobJr_63, BirksAndSocks_62, Breezic_57, Butterball_60, CathyBurgh_57, Charianelly_55, Chelms_57, CinnamonToast_63, Crete_58, Dakiti_58, Damp_55, Diabla_61, Eggsie_55, Ekhein_57, Exiguo_56, FelixAlejandro_62, Flakey_56, GMA7_49, GTE7_48, GalacticEye_55, Gorko_56, GourdThymes_57, Guillaume_55, Hail2Pitt_54, Harambe_55, HayZem_60, Hello_55, Hotorobo_57, Jams_55, Jellybones_59, John316_60, Jormungandr_55, Kaseim_55, Katyusha_53, Kelzog_59, Lahirium_55, Lidong_55, Linetti_57, Lizzo_57, Luker_56, Minos_56, Monty_56, MrWormie_55, Msay19_62, Neoevie_55, Newt_56, Nimi13_55, Philon9_54, PierreThree_56, PokyPuppy_56, Poland_62, RemRem_58, RoyalG_57, Sam12_56, Shelley_55, Sombrero_58, Squibbles_56, SteveFrench_56, Sticker17_55, Teal_55, Teech_54, Vitaenoii_54, Woes_55, Worcestershire_56,

Genes that have the "Most Annotated" start but do not call it:
• ASerpRocky_52, Benczkowski14_53, Boneham_61, Demosthenes_52, Hollow_53, Kvothe_52, Niagara_53, Teatealatte_54, Tredge_54,

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

Summary by start number:

Start 8:
• Found in 38 of 82 (46.3%) of genes in pham
• Manual Annotations of this start: 1 of 77
• Called 2.6% of time when present
• Phage (with cluster) where this start called: Boneham_61 (CS2),

Start 9:
• Found in 82 of 82 (100.0%) of genes in pham
• Manual Annotations of this start: 68 of 77
• Called 89.0% of time when present
• Phage (with cluster) where this start called: Adgers_60 (CS2), Amore2_60 (CS1), Austin_59 (CS1), Barbochs_55 (CS2), Beaver_60 (CS2), BenoitCattle_57 (CS2), Berries_55 (CS3), Bianmat_55 (CS3), BigShaq_57 (CS2), BillyBobJr_63 (CS2), BirksAndSocks_62 (CS2), Breezic_57 (CS2), Butterball_60 (CS2), CathyBurgh_57 (CS2), Charianelly_55 (CS3), Chelms_57 (CS2), CinnamonToast_63 (CS2), Crete_58 (CS2), Dakiti_58 (CS2), Damp_55 (CS3), Diabla_61 (CS2), Eggsie_55 (CS2), Ekhein_57 (CS2), Exiguo_56 (CS2), FelixAlejandro_62 (CS2), Flakey_56 (CS2), GMA7_49 (CS1), GTE7_48 (CS1), GalacticEye_55 (CS3), Gorko_56 (CS2), GourdThymes_57 (CS2), Guillaume_55 (CS3), Hail2Pitt_54 (CS3), Harambe_55 (CS3), HayZem_60 (CS1), Hello_55 (CS3), Hotorobo_57 (CS2), Jams_55 (CS3), Jellybones_59 (CS2), John316_60 (CS2), Jormungandr_55 (CS3), Kaseim_55 (CS3), Katyusha_53 (CS4), Kelzog_59 (CS2), Lahirium_55 (CS3), Lidong_55 (CS3), Linetti_57 (CS2), Lizzo_57 (CS2), Luker_56 (CS3), Minos_56 (CS3), Monty_56 (CS2), MrWormie_55 (CS3), Msay19_62 (CS2), Neoevie_55 (CS3), Newt_56 (CS3), Nimi13_55 (CS3), Philon9_54 (CS4), PierreThree_56 (CS2), PokyPuppy_56 (CS2), Poland_62 (CS2), RemRem_58 (CS2), RoyalG_57 (CS2), Sam12_56 (CS2), Shelley_55 (CS3), Sombrero_58 (CS2), Squibbles_56 (CS2), SteveFrench_56 (CS2), Sticker17_55 (CS3), Teal_55 (CS3), Teech_54 (CS4), Vitaenoii_54 (CS4), Woes_55 (CS3), Worcestershire_56 (CS2),

Start 12:
• Found in 12 of 82 (14.6%) of genes in pham
• Manual Annotations of this start: 6 of 77
• Called 50.0% of time when present
• Phage (with cluster) where this start called: ASerpRocky_52 (CS4), Benczkowski14_53 (CS4), Hollow_53 (CS4), Niagara_53 (CS4), Teatealatte_54 (CS4), Tredge_54 (CS4),

Start 13:
• Found in 10 of 82 (12.2%) of genes in pham
• Manual Annotations of this start: 2 of 77
• Called 20.0% of time when present
• Phage (with cluster) where this start called: Demosthenes_52 (CS4), Kvothe_52 (CS4),

Summary by clusters:

There are 4 clusters represented in this pham: CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:
•Start number 9 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:
•Start number 8 was manually annotated 1 time for cluster CS2.
•Start number 9 was manually annotated 37 times for cluster CS2.

Info for manual annotations of cluster CS3:
•Start number 9 was manually annotated 24 times for cluster CS3.

Info for manual annotations of cluster CS4:
•Start number 9 was manually annotated 4 times for cluster CS4.
•Start number 12 was manually annotated 6 times for cluster CS4.
•Start number 13 was manually annotated 2 times for cluster CS4.

Gene Information:

Gene: ASerpRocky_52 Start: 50628, Stop: 50467, Start Num: 12
Candidate Starts for ASerpRocky_52:
(1, 50847), (3, 50826), (4, 50799), (5, 50793), (6, 50754), (Start: 9 @50655 has 68 MA's), (Start: 12 @50628 has 6 MA's), (Start: 13 @50622 has 2 MA's),

Gene: Adgers_60 Start: 50114, Stop: 49920, Start Num: 9
Candidate Starts for Adgers_60:
(Start: 9 @50114 has 68 MA's), (14, 50072), (18, 50054), (21, 50027), (24, 49961),

Gene: Amore2_60 Start: 50552, Stop: 50367, Start Num: 9
Candidate Starts for Amore2_60:
(Start: 8 @50558 has 1 MA's), (Start: 9 @50552 has 68 MA's), (14, 50510), (17, 50495), (19, 50477), (21, 50465), (22, 50453), (24, 50399),

Gene: Austin_59 Start: 50550, Stop: 50365, Start Num: 9

Candidate Starts for Austin_59:
(Start: 8 @50556 has 1 MA's), (Start: 9 @50550 has 68 MA's), (14, 50508), (17, 50493), (19, 50475), (21, 50463), (22, 50451), (24, 50397),

Gene: Barbochs_55 Start: 49658, Stop: 49464, Start Num: 9
Candidate Starts for Barbochs_55:
(Start: 8 @49664 has 1 MA's), (Start: 9 @49658 has 68 MA's), (14, 49616), (18, 49598), (20, 49574), (21, 49571), (24, 49505),

Gene: Beaver_60 Start: 51428, Stop: 51234, Start Num: 9
Candidate Starts for Beaver_60:
(Start: 8 @51434 has 1 MA's), (Start: 9 @51428 has 68 MA's), (14, 51386), (18, 51368), (20, 51344), (21, 51341), (24, 51275),

Gene: Benczkowski14_53 Start: 50899, Stop: 50738, Start Num: 12
Candidate Starts for Benczkowski14_53:
(5, 51064), (6, 51025), (Start: 9 @50926 has 68 MA's), (Start: 12 @50899 has 6 MA's), (Start: 13 @50893 has 2 MA's),

Gene: BenoitCattle_57 Start: 50065, Stop: 49871, Start Num: 9
Candidate Starts for BenoitCattle_57:
(Start: 8 @50071 has 1 MA's), (Start: 9 @50065 has 68 MA's), (10, 50056), (14, 50023), (17, 50008), (18, 50005), (19, 49990), (24, 49912),

Gene: Berries_55 Start: 50883, Stop: 50689, Start Num: 9
Candidate Starts for Berries_55:
(Start: 9 @50883 has 68 MA's), (11, 50859), (14, 50841), (19, 50808), (21, 50796), (24, 50730),

Gene: Bianmat_55 Start: 50923, Stop: 50729, Start Num: 9
Candidate Starts for Bianmat_55:
(Start: 9 @50923 has 68 MA's), (11, 50899), (14, 50881), (19, 50848), (21, 50836), (24, 50770),

Gene: BigShaq_57 Start: 50070, Stop: 49876, Start Num: 9
Candidate Starts for BigShaq_57:
(Start: 8 @50076 has 1 MA's), (Start: 9 @50070 has 68 MA's), (10, 50061), (14, 50028), (17, 50013), (18, 50010), (19, 49995), (24, 49917),

Gene: BillyBobJr_63 Start: 51738, Stop: 51544, Start Num: 9
Candidate Starts for BillyBobJr_63:
(Start: 9 @51738 has 68 MA's), (14, 51696), (18, 51678), (21, 51651), (24, 51585),

Gene: BirksAndSocks_62 Start: 51778, Stop: 51584, Start Num: 9
Candidate Starts for BirksAndSocks_62:
(Start: 8 @51784 has 1 MA's), (Start: 9 @51778 has 68 MA's), (14, 51736), (18, 51718), (20, 51694), (21, 51691), (24, 51625),

Gene: Boneham_61 Start: 51685, Stop: 51485, Start Num: 8
Candidate Starts for Boneham_61:
(Start: 8 @51685 has 1 MA's), (Start: 9 @51679 has 68 MA's), (14, 51637), (20, 51595), (21, 51592), (24, 51526),

Gene: Breezic_57 Start: 49671, Stop: 49477, Start Num: 9
Candidate Starts for Breezic_57:

(Start: 8 @49677 has 1 MA's), (Start: 9 @49671 has 68 MA's), (14, 49629), (18, 49611), (20, 49587), (21, 49584), (24, 49518),

Gene: Butterball_60 Start: 51684, Stop: 51490, Start Num: 9
Candidate Starts for Butterball_60:
(Start: 8 @51690 has 1 MA's), (Start: 9 @51684 has 68 MA's), (14, 51642), (20, 51600), (21, 51597), (24, 51531),

Gene: CathyBurgh_57 Start: 50248, Stop: 50054, Start Num: 9
Candidate Starts for CathyBurgh_57:
(Start: 8 @50254 has 1 MA's), (Start: 9 @50248 has 68 MA's), (14, 50206), (18, 50188), (20, 50164), (21, 50161), (24, 50095),

Gene: Charianelly_55 Start: 50633, Stop: 50439, Start Num: 9
Candidate Starts for Charianelly_55:
(Start: 9 @50633 has 68 MA's), (11, 50609), (14, 50591), (19, 50558), (21, 50546), (24, 50480),

Gene: Chelms_57 Start: 50214, Stop: 50020, Start Num: 9
Candidate Starts for Chelms_57:
(Start: 8 @50220 has 1 MA's), (Start: 9 @50214 has 68 MA's), (10, 50205), (14, 50172), (17, 50157), (18, 50154), (19, 50139), (24, 50061),

Gene: CinnamonToast_63 Start: 51738, Stop: 51544, Start Num: 9
Candidate Starts for CinnamonToast_63:
(Start: 9 @51738 has 68 MA's), (14, 51696), (18, 51678), (21, 51651), (24, 51585),

Gene: Crete_58 Start: 50336, Stop: 50142, Start Num: 9
Candidate Starts for Crete_58:
(Start: 8 @50342 has 1 MA's), (Start: 9 @50336 has 68 MA's), (10, 50327), (14, 50294), (17, 50279), (18, 50276), (19, 50261), (24, 50183),

Gene: Dakiti_58 Start: 51082, Stop: 50888, Start Num: 9
Candidate Starts for Dakiti_58:
(Start: 8 @51088 has 1 MA's), (Start: 9 @51082 has 68 MA's), (10, 51073), (14, 51040), (17, 51025), (18, 51022), (19, 51007), (24, 50929),

Gene: Damp_55 Start: 49797, Stop: 49603, Start Num: 9
Candidate Starts for Damp_55:
(Start: 9 @49797 has 68 MA's), (11, 49773), (14, 49755), (19, 49722), (21, 49710), (24, 49644),

Gene: Demosthenes_52 Start: 50598, Stop: 50443, Start Num: 13
Candidate Starts for Demosthenes_52:
(1, 50823), (2, 50805), (3, 50802), (5, 50769), (Start: 9 @50631 has 68 MA's), (Start: 12 @50604 has 6 MA's), (Start: 13 @50598 has 2 MA's),

Gene: Diabla_61 Start: 51737, Stop: 51543, Start Num: 9
Candidate Starts for Diabla_61:
(Start: 8 @51743 has 1 MA's), (Start: 9 @51737 has 68 MA's), (14, 51695), (20, 51653), (21, 51650),

Gene: Eggsie_55 Start: 49514, Stop: 49320, Start Num: 9
Candidate Starts for Eggsie_55:
(Start: 8 @49520 has 1 MA's), (Start: 9 @49514 has 68 MA's), (14, 49472), (20, 49430), (21, 49427),

Gene: Ekhein_57 Start: 49376, Stop: 49182, Start Num: 9
Candidate Starts for Ekhein_57:
(Start: 8 @49382 has 1 MA's), (Start: 9 @49376 has 68 MA's), (14, 49334), (18, 49316), (20, 49292), (21, 49289), (24, 49223),

Gene: Exiguo_56 Start: 49388, Stop: 49194, Start Num: 9
Candidate Starts for Exiguo_56:
(Start: 8 @49394 has 1 MA's), (Start: 9 @49388 has 68 MA's), (14, 49346), (18, 49328), (20, 49304), (21, 49301), (24, 49235),

Gene: FelixAlejandro_62 Start: 52082, Stop: 51888, Start Num: 9
Candidate Starts for FelixAlejandro_62:
(Start: 9 @52082 has 68 MA's), (14, 52040), (18, 52022), (21, 51995), (24, 51929),

Gene: Flakey_56 Start: 50252, Stop: 50058, Start Num: 9
Candidate Starts for Flakey_56:
(Start: 8 @50258 has 1 MA's), (Start: 9 @50252 has 68 MA's), (14, 50210), (18, 50192), (20, 50168), (21, 50165), (24, 50099),

Gene: GMA7_49 Start: 44766, Stop: 44581, Start Num: 9
Candidate Starts for GMA7_49:
(Start: 8 @44772 has 1 MA's), (Start: 9 @44766 has 68 MA's), (14, 44724), (17, 44709), (19, 44691), (21, 44679), (22, 44667), (24, 44613),

Gene: GTE7_48 Start: 44797, Stop: 44612, Start Num: 9
Candidate Starts for GTE7_48:
(Start: 8 @44803 has 1 MA's), (Start: 9 @44797 has 68 MA's), (14, 44755), (17, 44740), (19, 44722), (21, 44710), (22, 44698), (24, 44644),

Gene: GalacticEye_55 Start: 50594, Stop: 50400, Start Num: 9
Candidate Starts for GalacticEye_55:
(Start: 9 @50594 has 68 MA's), (11, 50570), (14, 50552), (19, 50519), (21, 50507), (24, 50441),

Gene: Gorko_56 Start: 49380, Stop: 49186, Start Num: 9
Candidate Starts for Gorko_56:
(Start: 8 @49386 has 1 MA's), (Start: 9 @49380 has 68 MA's), (14, 49338), (18, 49320), (20, 49296), (21, 49293), (24, 49227),

Gene: GourdThymes_57 Start: 50254, Stop: 50060, Start Num: 9
Candidate Starts for GourdThymes_57:
(Start: 8 @50260 has 1 MA's), (Start: 9 @50254 has 68 MA's), (14, 50212), (18, 50194), (20, 50170), (21, 50167), (24, 50101),

Gene: Guillaume_55 Start: 50644, Stop: 50450, Start Num: 9
Candidate Starts for Guillaume_55:
(Start: 9 @50644 has 68 MA's), (11, 50620), (14, 50602), (19, 50569), (21, 50557), (24, 50491),

Gene: Hail2Pitt_54 Start: 51120, Stop: 50926, Start Num: 9
Candidate Starts for Hail2Pitt_54:
(7, 51171), (Start: 9 @51120 has 68 MA's), (11, 51096), (14, 51078), (19, 51045), (21, 51033), (24, 50967),

Gene: Harambe_55 Start: 50911, Stop: 50717, Start Num: 9

Candidate Starts for Harambe_55:
(Start: 9 @50911 has 68 MA's), (11, 50887), (14, 50869), (19, 50836), (21, 50824), (24, 50758),

Gene: HayZem_60 Start: 50549, Stop: 50364, Start Num: 9
Candidate Starts for HayZem_60:
(Start: 8 @50555 has 1 MA's), (Start: 9 @50549 has 68 MA's), (14, 50507), (17, 50492), (19, 50474), (21, 50462), (22, 50450), (24, 50396),

Gene: Hello_55 Start: 50873, Stop: 50679, Start Num: 9
Candidate Starts for Hello_55:
(Start: 9 @50873 has 68 MA's), (11, 50849), (14, 50831), (19, 50798), (21, 50786), (24, 50720),

Gene: Hollow_53 Start: 51080, Stop: 50919, Start Num: 12
Candidate Starts for Hollow_53:
(Start: 9 @51107 has 68 MA's), (Start: 12 @51080 has 6 MA's), (Start: 13 @51074 has 2 MA's),

Gene: Hotorobo_57 Start: 50259, Stop: 50065, Start Num: 9
Candidate Starts for Hotorobo_57:
(Start: 8 @50265 has 1 MA's), (Start: 9 @50259 has 68 MA's), (14, 50217), (18, 50199), (20, 50175), (21, 50172), (24, 50106),

Gene: Jams_55 Start: 50083, Stop: 49889, Start Num: 9
Candidate Starts for Jams_55:
(Start: 9 @50083 has 68 MA's), (11, 50059), (14, 50041), (19, 50008), (21, 49996), (24, 49930),

Gene: Jellybones_59 Start: 51354, Stop: 51160, Start Num: 9
Candidate Starts for Jellybones_59:
(Start: 9 @51354 has 68 MA's), (14, 51312), (18, 51294), (21, 51267), (24, 51201),

Gene: John316_60 Start: 51417, Stop: 51223, Start Num: 9
Candidate Starts for John316_60:
(Start: 8 @51423 has 1 MA's), (Start: 9 @51417 has 68 MA's), (14, 51375), (18, 51357), (20, 51333), (21, 51330), (24, 51264),

Gene: Jormungandr_55 Start: 50626, Stop: 50432, Start Num: 9
Candidate Starts for Jormungandr_55:
(Start: 9 @50626 has 68 MA's), (11, 50602), (14, 50584), (19, 50551), (21, 50539), (24, 50473),

Gene: Kaseim_55 Start: 50068, Stop: 49874, Start Num: 9
Candidate Starts for Kaseim_55:
(Start: 9 @50068 has 68 MA's), (11, 50044), (14, 50026), (19, 49993), (21, 49981), (24, 49915),

Gene: Katyusha_53 Start: 50926, Stop: 50738, Start Num: 9
Candidate Starts for Katyusha_53:
(5, 51064), (6, 51025), (Start: 9 @50926 has 68 MA's), (Start: 12 @50899 has 6 MA's), (Start: 13 @50893 has 2 MA's),

Gene: Kelzog_59 Start: 50266, Stop: 50072, Start Num: 9
Candidate Starts for Kelzog_59:
(Start: 8 @50272 has 1 MA's), (Start: 9 @50266 has 68 MA's), (14, 50224), (18, 50206), (20, 50182), (21, 50179), (24, 50113),

Gene: Kvothe_52 Start: 50792, Stop: 50637, Start Num: 13

Candidate Starts for Kvothe_52:
(1, 51017), (3, 50996), (4, 50969), (5, 50963), (Start: 9 @50825 has 68 MA's), (Start: 12 @50798 has 6 MA's), (Start: 13 @50792 has 2 MA's),

Gene: Lahirium_55 Start: 51148, Stop: 50954, Start Num: 9
Candidate Starts for Lahirium_55:
(Start: 9 @51148 has 68 MA's), (11, 51124), (14, 51106), (19, 51073), (21, 51061), (24, 50995),

Gene: Lidong_55 Start: 50883, Stop: 50689, Start Num: 9
Candidate Starts for Lidong_55:
(Start: 9 @50883 has 68 MA's), (11, 50859), (14, 50841), (19, 50808), (21, 50796), (24, 50730),

Gene: Linetti_57 Start: 51067, Stop: 50873, Start Num: 9
Candidate Starts for Linetti_57:
(Start: 8 @51073 has 1 MA's), (Start: 9 @51067 has 68 MA's), (10, 51058), (14, 51025), (17, 51010), (18, 51007), (19, 50992), (24, 50914),

Gene: Lizzo_57 Start: 50248, Stop: 50054, Start Num: 9
Candidate Starts for Lizzo_57:
(Start: 8 @50254 has 1 MA's), (Start: 9 @50248 has 68 MA's), (14, 50206), (18, 50188), (20, 50164), (21, 50161), (24, 50095),

Gene: Luker_56 Start: 51101, Stop: 50907, Start Num: 9
Candidate Starts for Luker_56:
(7, 51152), (Start: 9 @51101 has 68 MA's), (11, 51077), (14, 51059), (19, 51026), (21, 51014), (24, 50948),

Gene: Minos_56 Start: 50625, Stop: 50431, Start Num: 9
Candidate Starts for Minos_56:
(Start: 9 @50625 has 68 MA's), (11, 50601), (14, 50583), (19, 50550), (21, 50538), (24, 50472),

Gene: Monty_56 Start: 49398, Stop: 49204, Start Num: 9
Candidate Starts for Monty_56:
(Start: 8 @49404 has 1 MA's), (Start: 9 @49398 has 68 MA's), (14, 49356), (18, 49338), (20, 49314), (21, 49311), (24, 49245),

Gene: MrWormie_55 Start: 49786, Stop: 49592, Start Num: 9
Candidate Starts for MrWormie_55:
(Start: 9 @49786 has 68 MA's), (11, 49762), (14, 49744), (19, 49711), (21, 49699), (24, 49633),

Gene: Msay19_62 Start: 51968, Stop: 51774, Start Num: 9
Candidate Starts for Msay19_62:
(Start: 9 @51968 has 68 MA's), (14, 51926), (18, 51908), (21, 51881), (24, 51815),

Gene: Neoevie_55 Start: 50887, Stop: 50693, Start Num: 9
Candidate Starts for Neoevie_55:
(Start: 9 @50887 has 68 MA's), (11, 50863), (14, 50845), (19, 50812), (21, 50800), (24, 50734),

Gene: Newt_56 Start: 51115, Stop: 50921, Start Num: 9
Candidate Starts for Newt_56:
(Start: 9 @51115 has 68 MA's), (11, 51091), (14, 51073), (19, 51040), (21, 51028), (24, 50962),

Gene: Niagara_53 Start: 50889, Stop: 50728, Start Num: 12

Candidate Starts for Niagara_53:
(5, 51054), (6, 51015), (Start: 9 @50916 has 68 MA's), (Start: 12 @50889 has 6 MA's), (Start: 13 @50883 has 2 MA's),

Gene: Nimi13_55 Start: 50634, Stop: 50440, Start Num: 9
Candidate Starts for Nimi13_55:
(Start: 9 @50634 has 68 MA's), (11, 50610), (14, 50592), (19, 50559), (21, 50547), (24, 50481),

Gene: Philon9_54 Start: 51773, Stop: 51585, Start Num: 9
Candidate Starts for Philon9_54:
(Start: 9 @51773 has 68 MA's), (Start: 12 @51749 has 6 MA's), (16, 51725), (23, 51659), (25, 51611),

Gene: PierreThree_56 Start: 50713, Stop: 50519, Start Num: 9
Candidate Starts for PierreThree_56:
(Start: 8 @50719 has 1 MA's), (Start: 9 @50713 has 68 MA's), (10, 50704), (14, 50671), (17, 50656), (18, 50653), (19, 50638), (24, 50560),

Gene: PokyPuppy_56 Start: 50707, Stop: 50513, Start Num: 9
Candidate Starts for PokyPuppy_56:
(Start: 8 @50713 has 1 MA's), (Start: 9 @50707 has 68 MA's), (11, 50683), (15, 50659), (17, 50650), (18, 50647), (19, 50632), (20, 50623), (24, 50554),

Gene: Poland_62 Start: 51947, Stop: 51753, Start Num: 9
Candidate Starts for Poland_62:
(Start: 9 @51947 has 68 MA's), (14, 51905), (18, 51887), (21, 51860), (24, 51794),

Gene: RemRem_58 Start: 49388, Stop: 49194, Start Num: 9
Candidate Starts for RemRem_58:
(Start: 8 @49394 has 1 MA's), (Start: 9 @49388 has 68 MA's), (14, 49346), (18, 49328), (20, 49304), (21, 49301), (24, 49235),

Gene: RoyalG_57 Start: 50163, Stop: 49969, Start Num: 9
Candidate Starts for RoyalG_57:
(Start: 8 @50169 has 1 MA's), (Start: 9 @50163 has 68 MA's), (14, 50121), (20, 50079), (21, 50076), (24, 50010),

Gene: Sam12_56 Start: 49388, Stop: 49194, Start Num: 9
Candidate Starts for Sam12_56:
(Start: 8 @49394 has 1 MA's), (Start: 9 @49388 has 68 MA's), (14, 49346), (18, 49328), (20, 49304), (21, 49301), (24, 49235),

Gene: Shelley_55 Start: 50110, Stop: 49916, Start Num: 9
Candidate Starts for Shelley_55:
(Start: 9 @50110 has 68 MA's), (11, 50086), (14, 50068), (19, 50035), (21, 50023), (24, 49957),

Gene: Sombrero_58 Start: 49955, Stop: 49761, Start Num: 9
Candidate Starts for Sombrero_58:
(Start: 9 @49955 has 68 MA's), (14, 49913), (18, 49895), (21, 49868), (24, 49802),

Gene: Squibbles_56 Start: 50251, Stop: 50057, Start Num: 9
Candidate Starts for Squibbles_56:
(Start: 8 @50257 has 1 MA's), (Start: 9 @50251 has 68 MA's), (14, 50209), (18, 50191), (20, 50167), (21, 50164), (24, 50098),

Gene: SteveFrench_56 Start: 50403, Stop: 50209, Start Num: 9
Candidate Starts for SteveFrench_56:
(Start: 8 @50409 has 1 MA's), (Start: 9 @50403 has 68 MA's), (14, 50361), (20, 50319), (21, 50316), (24, 50250),

Gene: Sticker17_55 Start: 50625, Stop: 50431, Start Num: 9
Candidate Starts for Sticker17_55:
(Start: 9 @50625 has 68 MA's), (11, 50601), (14, 50583), (19, 50550), (21, 50538), (24, 50472),

Gene: Teal_55 Start: 51092, Stop: 50898, Start Num: 9
Candidate Starts for Teal_55:
(Start: 9 @51092 has 68 MA's), (11, 51068), (14, 51050), (19, 51017), (21, 51005), (24, 50939),

Gene: Teatealatte_54 Start: 50801, Stop: 50640, Start Num: 12
Candidate Starts for Teatealatte_54:
(5, 50966), (Start: 9 @50828 has 68 MA's), (Start: 12 @50801 has 6 MA's), (Start: 13 @50795 has 2 MA's),

Gene: Teech_54 Start: 50629, Stop: 50441, Start Num: 9
Candidate Starts for Teech_54:
(5, 50767), (6, 50728), (Start: 9 @50629 has 68 MA's), (Start: 12 @50602 has 6 MA's), (Start: 13 @50596 has 2 MA's),

Gene: Tredge_54 Start: 50801, Stop: 50640, Start Num: 12
Candidate Starts for Tredge_54:
(5, 50966), (Start: 9 @50828 has 68 MA's), (Start: 12 @50801 has 6 MA's), (Start: 13 @50795 has 2 MA's),

Gene: Vitaenoii_54 Start: 51772, Stop: 51584, Start Num: 9
Candidate Starts for Vitaenoii_54:
(Start: 9 @51772 has 68 MA's), (Start: 12 @51748 has 6 MA's), (16, 51724), (23, 51658), (25, 51610),

Gene: Woes_55 Start: 51143, Stop: 50949, Start Num: 9
Candidate Starts for Woes_55:
(Start: 9 @51143 has 68 MA's), (11, 51119), (14, 51101), (19, 51068), (21, 51056), (24, 50990),

Gene: Worcestershire_56 Start: 49390, Stop: 49196, Start Num: 9
Candidate Starts for Worcestershire_56:
(Start: 8 @49396 has 1 MA's), (Start: 9 @49390 has 68 MA's), (14, 49348), (18, 49330), (20, 49306), (21, 49303), (24, 49237),