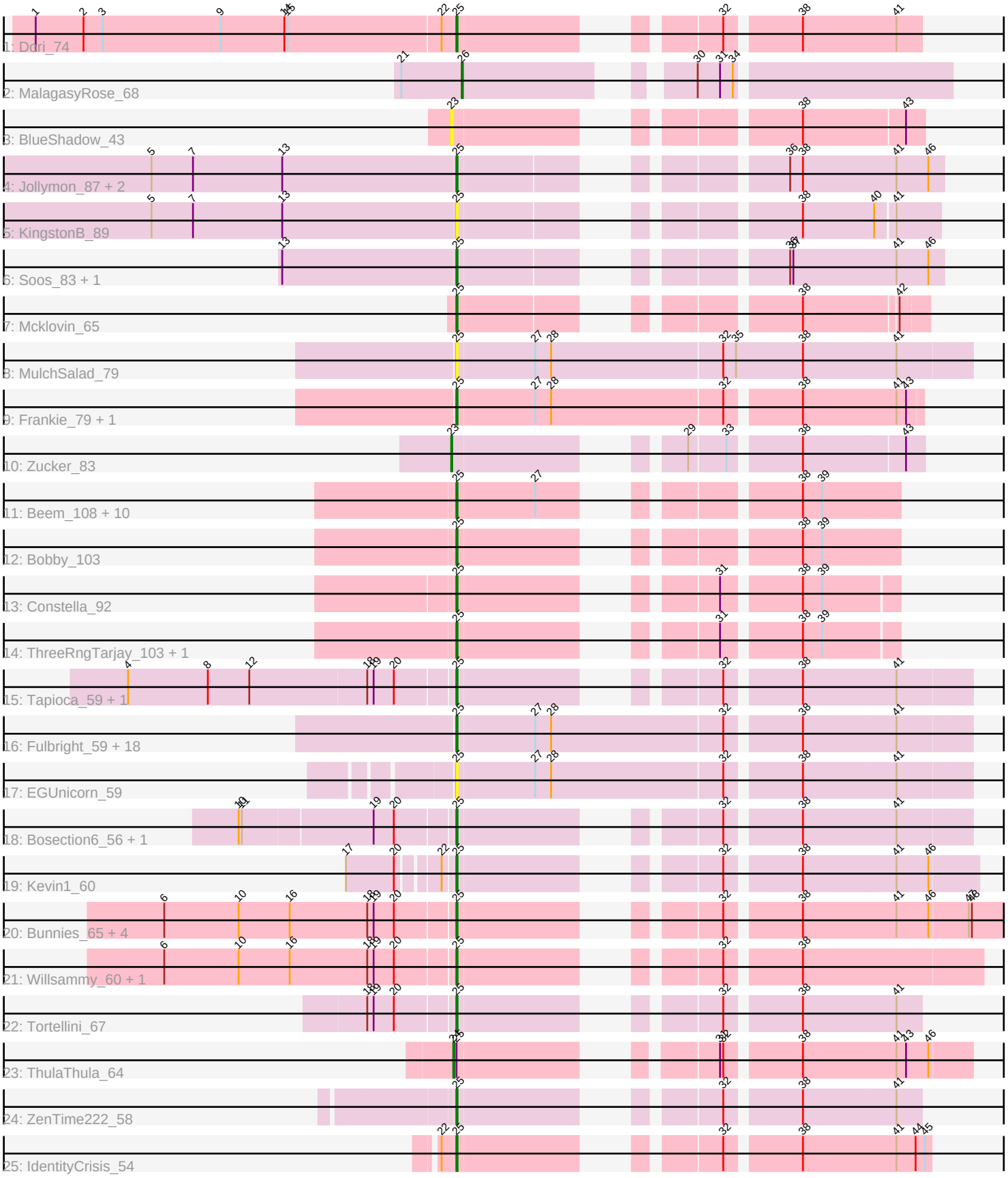
Pham 224571


1: Ddri_74
2: MalagasyRose_68
3: BlueShadow_43
4: Jollymon_87 + 2
5: KingstonB_89
6: Soos_83 + 1
7: Mcklovin_65
8: MulchSalad_79
9: Frankie_79 + 1
10: Zucker_83
11: Beem_108 + 10
12: Bobby_103
13: Constella_92
14: ThreeRngTarjay_103 + 1
15: Tapioca_59 + 1
16: Fulbright_59 + 18
17: EGUnicorn_59
18: Bosection6_56 + 1
19: Kevin1_60
20: Bunnies_65 + 4
21: Willsammy_60 + 1
22: Tortellini_67
23: ThulaThula_64
24: ZenTime222_58
25: IdentityCrisis_54

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 224571 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224571 has 65 members, 6 are drafts.

Phages represented in each track:
• Track 1 : Dori_74
• Track 2 : MalagasyRose_68
• Track 3 : BlueShadow_43
• Track 4 : Jollymon_87, Amo99_90, ColdSoup_90
• Track 5 : KingstonB_89
• Track 6 : Soos_83, Sting_86
• Track 7 : Mcklovin_65
• Track 8 : MulchSalad_79
• Track 9 : Frankie_79, Piper2020_85
• Track 10 : Zucker_83
• Track 11 : Beem_108, Minerva_106, Schatzie_101, Bombitas_95, Dove_92, Ejimix_100, JuicyJay_103, HokkenD_96, Halley_108, Redno2_98, NihilNomen_108
• Track 12 : Bobby_103
• Track 13 : Constella_92
• Track 14 : ThreeRngTarjay_103, Optimus_100
• Track 15 : Tapioca_59, Andies_55
• Track 16 : Fulbright_59, Xerxes_61, Duplicity_59, Magsby_60, Phloss_59, Parmesanjohn_61, Chewbacca_64, FirstPlacePfu_63, Schnauzer_62, Pipsqueaks_62, Philonius_61, Silvy_57, Smurph_61, Aggie_57, SkinnyPete_58, Silvafighter_63, Melville_66, Carcharodon_61, Gex_62
• Track 17 : EGUnicorn_59
• Track 18 : Bosection6_56, Charlie_58
• Track 19 : Kevin1_60
• Track 20 : Bunnies_65, CactusJack_60, KilKor_60, Phalm_60, Glaske_59
• Track 21 : Willsammy_60, Ksquared_63
• Track 22 : Tortellini_67
• Track 23 : ThulaThula_64
• Track 24 : ZenTime222_58
• Track 25 : IdentityCrisis_54

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

The start number called the most often in the published annotations is 25, it was called in 56 of the 59 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aggie_57, Amo99_90, Andies_55, Beem_108, Bobby_103, Bombitas_95, Bosection6_56, Bunnies_65, CactusJack_60, Carcharodon_61, Charlie_58, Chewbacca_64, ColdSoup_90, Constella_92, Dori_74, Dove_92, Duplicity_59, EGUnicorn_59, Ejimix_100, FirstPlacePfu_63, Frankie_79, Fulbright_59, Gex_62, Glaske_59, Halley_108, HokkenD_96, IdentityCrisis_54, Jollymon_87, JuicyJay_103, Kevin1_60, KilKor_60, KingstonB_89, Ksquared_63, Magsby_60, Mcklovin_65, Melville_66, Minerva_106, MulchSalad_79, NihilNomen_108, Optimus_100, Parmesanjohn_61, Phalm_60, Philonius_61, Phloss_59, Piper2020_85, Pipsqueaks_62, Redno2_98, Schatzie_101, Schnauzer_62, Silvafighter_63, Silvy_57, SkinnyPete_58, Smurph_61, Soos_83, Sting_86, Tapioca_59, ThreeRngTarjay_103, Tortellini_67, Willsammy_60, Xerxes_61, ZenTime222_58,

Genes that have the "Most Annotated" start but do not call it:
• ThulaThula_64,

Genes that do not have the "Most Annotated" start:
• BlueShadow_43, MalagasyRose_68, Zucker_83,

Summary by start number:

Start 23:
• Found in 2 of 65 (3.1%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BlueShadow_43 (AY), Zucker_83 (FN),

Start 24:
• Found in 1 of 65 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ThulaThula_64 (P5),

Start 25:
• Found in 62 of 65 (95.4%) of genes in pham
• Manual Annotations of this start: 56 of 59
• Called 98.4% of time when present
• Phage (with cluster) where this start called: Aggie_57 (N), Amo99_90 (CP), Andies_55 (N), Beem_108 (J), Bobby_103 (J), Bombitas_95 (J), Bosection6_56 (N), Bunnies_65 (P1), CactusJack_60 (P1), Carcharodon_61 (N), Charlie_58 (N), Chewbacca_64 (N), ColdSoup_90 (CP), Constella_92 (J), Dori_74 (AD), Dove_92 (J), Duplicity_59 (N), EGUnicorn_59 (N), Ejimix_100 (J), FirstPlacePfu_63 (P1), Frankie_79 (F1), Fulbright_59 (N), Gex_62 (N), Glaske_59 (P1), Halley_108 (J), HokkenD_96 (J), IdentityCrisis_54 (singleton), Jollymon_87 (CP), JuicyJay_103 (J), Kevin1_60 (N), KilKor_60 (P1), KingstonB_89 (CP), Ksquared_63 (P1), Magsby_60 (N), Mcklovin_65 (CZ4), Melville_66 (N), Minerva_106 (J), MulchSalad_79 (F), NihilNomen_108 (J), Optimus_100 (J), Parmesanjohn_61 (N), Phalm_60 (P1), Philonius_61 (N), Phloss_59 (N), Piper2020_85 (F1), Pipsqueaks_62 (N), Redno2_98 (J), Schatzie_101 (J), Schnauzer_62 (N), Silvafighter_63 (N), Silvy_57 (N), SkinnyPete_58 (N), Smurph_61 (N), Soos_83 (CP), Sting_86 (CP), Tapioca_59 (N), ThreeRngTarjay_103 (J), Tortellini_67 (P2), Willsammy_60 (P1), Xerxes_61 (N), ZenTime222_58 (T),

Start 26:
• Found in 1 of 65 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 59
• Called 100.0% of time when present
• Phage (with cluster) where this start called: MalagasyRose_68 (AG),

Summary by clusters:

There are 15 clusters represented in this pham: P2, F1, singleton, P1, AD, AG, P5, J, CZ4, N, F, AY, CP, FN, T,

Info for manual annotations of cluster AD:
•Start number 25 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster AG:
•Start number 26 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster CP:
•Start number 25 was manually annotated 3 times for cluster CP.

Info for manual annotations of cluster CZ4:
•Start number 25 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster F1:
•Start number 25 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster FN:
•Start number 23 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster J:
•Start number 25 was manually annotated 15 times for cluster J.

Info for manual annotations of cluster N:
•Start number 25 was manually annotated 23 times for cluster N.

Info for manual annotations of cluster P1:
•Start number 25 was manually annotated 8 times for cluster P1.

Info for manual annotations of cluster P2:
•Start number 25 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P5:
•Start number 24 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster T:
•Start number 25 was manually annotated 1 time for cluster T.

Gene Information:

Gene: Aggie_57 Start: 39395, Stop: 39856, Start Num: 25
Candidate Starts for Aggie_57:
(Start: 25 @39395 has 56 MA's), (27, 39467), (28, 39482), (32, 39641), (38, 39704), (41, 39791),

Gene: Amo99_90 Start: 56291, Stop: 56665, Start Num: 25
Candidate Starts for Amo99_90:
(5, 56006), (7, 56045), (13, 56129), (Start: 25 @56291 has 56 MA's), (36, 56522), (38, 56534), (41, 56621), (46, 56651),

Gene: Andies_55 Start: 38900, Stop: 39301, Start Num: 25
Candidate Starts for Andies_55:
(4, 38603), (8, 38678), (12, 38717), (18, 38825), (19, 38831), (20, 38849), (Start: 25 @38900 has 56 MA's), (32, 39083), (38, 39146), (41, 39233),

Gene: Beem_108 Start: 62992, Stop: 63327, Start Num: 25
Candidate Starts for Beem_108:
(Start: 25 @62992 has 56 MA's), (27, 63064), (38, 63238), (39, 63256),

Gene: BlueShadow_43 Start: 28586, Stop: 28227, Start Num: 23
Candidate Starts for BlueShadow_43:
(Start: 23 @28586 has 1 MA's), (38, 28337), (43, 28244),

Gene: Bobby_103 Start: 64857, Stop: 65192, Start Num: 25
Candidate Starts for Bobby_103:
(Start: 25 @64857 has 56 MA's), (38, 65103), (39, 65121),

Gene: Bombitas_95 Start: 60155, Stop: 60490, Start Num: 25
Candidate Starts for Bombitas_95:
(Start: 25 @60155 has 56 MA's), (27, 60227), (38, 60401), (39, 60419),

Gene: Bosection6_56 Start: 38504, Stop: 38905, Start Num: 25
Candidate Starts for Bosection6_56:
(10, 38315), (11, 38318), (19, 38435), (20, 38453), (Start: 25 @38504 has 56 MA's), (32, 38687), (38, 38750), (41, 38837),

Gene: Bunnies_65 Start: 41638, Stop: 42144, Start Num: 25
Candidate Starts for Bunnies_65:
(6, 41374), (10, 41443), (16, 41491), (18, 41563), (19, 41569), (20, 41587), (Start: 25 @41638 has 56 MA's), (32, 41821), (38, 41884), (41, 41971), (46, 42001), (47, 42037), (48, 42040),

Gene: CactusJack_60 Start: 40506, Stop: 41012, Start Num: 25
Candidate Starts for CactusJack_60:
(6, 40242), (10, 40311), (16, 40359), (18, 40431), (19, 40437), (20, 40455), (Start: 25 @40506 has 56 MA's), (32, 40689), (38, 40752), (41, 40839), (46, 40869), (47, 40905), (48, 40908),

Gene: Carcharodon_61 Start: 38739, Stop: 39203, Start Num: 25
Candidate Starts for Carcharodon_61:
(Start: 25 @38739 has 56 MA's), (27, 38811), (28, 38826), (32, 38985), (38, 39048), (41, 39135),

Gene: Charlie_58 Start: 38128, Stop: 38529, Start Num: 25
Candidate Starts for Charlie_58:
(10, 37939), (11, 37942), (19, 38059), (20, 38077), (Start: 25 @38128 has 56 MA's), (32, 38311), (38, 38374), (41, 38461),

Gene: Chewbacca_64 Start: 38634, Stop: 39098, Start Num: 25
Candidate Starts for Chewbacca_64:
(Start: 25 @38634 has 56 MA's), (27, 38706), (28, 38721), (32, 38880), (38, 38943), (41, 39030),

Gene: ColdSoup_90 Start: 56372, Stop: 56746, Start Num: 25
Candidate Starts for ColdSoup_90:
(5, 56087), (7, 56126), (13, 56210), (Start: 25 @56372 has 56 MA's), (36, 56603), (38, 56615), (41, 56702), (46, 56732),

Gene: Constella_92 Start: 57167, Stop: 57499, Start Num: 25
Candidate Starts for Constella_92:
(Start: 25 @57167 has 56 MA's), (31, 57347), (38, 57413), (39, 57431),

Gene: Dori_74 Start: 55849, Stop: 56205, Start Num: 25
Candidate Starts for Dori_74:
(1, 55459), (2, 55504), (3, 55522), (9, 55633), (14, 55693), (15, 55696), (22, 55837), (Start: 25 @55849 has 56 MA's), (32, 56032), (38, 56095), (41, 56182),

Gene: Dove_92 Start: 58421, Stop: 58756, Start Num: 25
Candidate Starts for Dove_92:
(Start: 25 @58421 has 56 MA's), (27, 58493), (38, 58667), (39, 58685),

Gene: Duplicity_59 Start: 37996, Stop: 38460, Start Num: 25
Candidate Starts for Duplicity_59:
(Start: 25 @37996 has 56 MA's), (27, 38068), (28, 38083), (32, 38242), (38, 38305), (41, 38392),

Gene: EGUnicorn_59 Start: 37062, Stop: 37526, Start Num: 25
Candidate Starts for EGUnicorn_59:
(Start: 25 @37062 has 56 MA's), (27, 37134), (28, 37149), (32, 37308), (38, 37371), (41, 37458),

Gene: Ejimix_100 Start: 62719, Stop: 63054, Start Num: 25
Candidate Starts for Ejimix_100:
(Start: 25 @62719 has 56 MA's), (27, 62791), (38, 62965), (39, 62983),

Gene: FirstPlacePfu_63 Start: 38539, Stop: 39003, Start Num: 25
Candidate Starts for FirstPlacePfu_63:
(Start: 25 @38539 has 56 MA's), (27, 38611), (28, 38626), (32, 38785), (38, 38848), (41, 38935),

Gene: Frankie_79 Start: 47128, Stop: 47547, Start Num: 25
Candidate Starts for Frankie_79:
(Start: 25 @47128 has 56 MA's), (27, 47200), (28, 47215), (32, 47374), (38, 47437), (41, 47524), (43, 47533),

Gene: Fulbright_59 Start: 37433, Stop: 37897, Start Num: 25
Candidate Starts for Fulbright_59:
(Start: 25 @37433 has 56 MA's), (27, 37505), (28, 37520), (32, 37679), (38, 37742), (41, 37829),

Gene: Gex_62 Start: 38755, Stop: 39219, Start Num: 25
Candidate Starts for Gex_62:
(Start: 25 @38755 has 56 MA's), (27, 38827), (28, 38842), (32, 39001), (38, 39064), (41, 39151),

Gene: Glaske_59 Start: 40506, Stop: 41012, Start Num: 25

Candidate Starts for Glaske_59:
(6, 40242), (10, 40311), (16, 40359), (18, 40431), (19, 40437), (20, 40455), (Start: 25 @40506 has 56 MA's), (32, 40689), (38, 40752), (41, 40839), (46, 40869), (47, 40905), (48, 40908),

Gene: Halley_108 Start: 62993, Stop: 63328, Start Num: 25
Candidate Starts for Halley_108:
(Start: 25 @62993 has 56 MA's), (27, 63065), (38, 63239), (39, 63257),

Gene: HokkenD_96 Start: 61261, Stop: 61596, Start Num: 25
Candidate Starts for HokkenD_96:
(Start: 25 @61261 has 56 MA's), (27, 61333), (38, 61507), (39, 61525),

Gene: IdentityCrisis_54 Start: 33602, Stop: 33967, Start Num: 25
Candidate Starts for IdentityCrisis_54:
(22, 33590), (Start: 25 @33602 has 56 MA's), (32, 33785), (38, 33848), (41, 33935), (44, 33953), (45, 33962),

Gene: Jollymon_87 Start: 56372, Stop: 56746, Start Num: 25
Candidate Starts for Jollymon_87:
(5, 56087), (7, 56126), (13, 56210), (Start: 25 @56372 has 56 MA's), (36, 56603), (38, 56615), (41, 56702), (46, 56732),

Gene: JuicyJay_103 Start: 64127, Stop: 64462, Start Num: 25
Candidate Starts for JuicyJay_103:
(Start: 25 @64127 has 56 MA's), (27, 64199), (38, 64373), (39, 64391),

Gene: Kevin1_60 Start: 37027, Stop: 37434, Start Num: 25
Candidate Starts for Kevin1_60:
(17, 36940), (20, 36985), (22, 37018), (Start: 25 @37027 has 56 MA's), (32, 37210), (38, 37273), (41, 37360), (46, 37390),

Gene: KilKor_60 Start: 41199, Stop: 41705, Start Num: 25
Candidate Starts for KilKor_60:
(6, 40935), (10, 41004), (16, 41052), (18, 41124), (19, 41130), (20, 41148), (Start: 25 @41199 has 56 MA's), (32, 41382), (38, 41445), (41, 41532), (46, 41562), (47, 41598), (48, 41601),

Gene: KingstonB_89 Start: 55783, Stop: 56148, Start Num: 25
Candidate Starts for KingstonB_89:
(5, 55498), (7, 55537), (13, 55621), (Start: 25 @55783 has 56 MA's), (38, 56026), (40, 56092), (41, 56107),

Gene: Ksquared_63 Start: 41638, Stop: 42021, Start Num: 25
Candidate Starts for Ksquared_63:
(6, 41374), (10, 41443), (16, 41491), (18, 41563), (19, 41569), (20, 41587), (Start: 25 @41638 has 56 MA's), (32, 41821), (38, 41884),

Gene: Magsby_60 Start: 38701, Stop: 39165, Start Num: 25
Candidate Starts for Magsby_60:
(Start: 25 @38701 has 56 MA's), (27, 38773), (28, 38788), (32, 38947), (38, 39010), (41, 39097),

Gene: MalagasyRose_68 Start: 43493, Stop: 43888, Start Num: 26
Candidate Starts for MalagasyRose_68:
(21, 43436), (Start: 26 @43493 has 1 MA's), (30, 43661), (31, 43682), (34, 43694),

Gene: Mcklovin_65 Start: 48076, Stop: 48429, Start Num: 25
Candidate Starts for Mcklovin_65:
(Start: 25 @48076 has 56 MA's), (38, 48319), (42, 48403),

Gene: Melville_66 Start: 38310, Stop: 38774, Start Num: 25
Candidate Starts for Melville_66:
(Start: 25 @38310 has 56 MA's), (27, 38382), (28, 38397), (32, 38556), (38, 38619), (41, 38706),

Gene: Minerva_106 Start: 62938, Stop: 63273, Start Num: 25
Candidate Starts for Minerva_106:
(Start: 25 @62938 has 56 MA's), (27, 63010), (38, 63184), (39, 63202),

Gene: MulchSalad_79 Start: 47746, Stop: 48222, Start Num: 25
Candidate Starts for MulchSalad_79:
(Start: 25 @47746 has 56 MA's), (27, 47818), (28, 47833), (32, 47992), (35, 48004), (38, 48067), (41, 48154),

Gene: NihilNomen_108 Start: 63079, Stop: 63414, Start Num: 25
Candidate Starts for NihilNomen_108:
(Start: 25 @63079 has 56 MA's), (27, 63151), (38, 63325), (39, 63343),

Gene: Optimus_100 Start: 61613, Stop: 61945, Start Num: 25
Candidate Starts for Optimus_100:
(Start: 25 @61613 has 56 MA's), (31, 61793), (38, 61859), (39, 61877),

Gene: Parmesanjohn_61 Start: 38759, Stop: 39223, Start Num: 25
Candidate Starts for Parmesanjohn_61:
(Start: 25 @38759 has 56 MA's), (27, 38831), (28, 38846), (32, 39005), (38, 39068), (41, 39155),

Gene: Phalm_60 Start: 40506, Stop: 41012, Start Num: 25
Candidate Starts for Phalm_60:
(6, 40242), (10, 40311), (16, 40359), (18, 40431), (19, 40437), (20, 40455), (Start: 25 @40506 has 56 MA's), (32, 40689), (38, 40752), (41, 40839), (46, 40869), (47, 40905), (48, 40908),

Gene: Philonius_61 Start: 38924, Stop: 39388, Start Num: 25
Candidate Starts for Philonius_61:
(Start: 25 @38924 has 56 MA's), (27, 38996), (28, 39011), (32, 39170), (38, 39233), (41, 39320),

Gene: Phloss_59 Start: 38166, Stop: 38630, Start Num: 25
Candidate Starts for Phloss_59:
(Start: 25 @38166 has 56 MA's), (27, 38238), (28, 38253), (32, 38412), (38, 38475), (41, 38562),

Gene: Piper2020_85 Start: 51523, Stop: 51987, Start Num: 25
Candidate Starts for Piper2020_85:
(Start: 25 @51523 has 56 MA's), (27, 51595), (28, 51610), (32, 51769), (38, 51832), (41, 51919), (43, 51928),

Gene: Pipsqueaks_62 Start: 38737, Stop: 39201, Start Num: 25
Candidate Starts for Pipsqueaks_62:
(Start: 25 @38737 has 56 MA's), (27, 38809), (28, 38824), (32, 38983), (38, 39046), (41, 39133),

Gene: Redno2_98 Start: 58813, Stop: 59148, Start Num: 25

Candidate Starts for Redno2_98:
(Start: 25 @58813 has 56 MA's), (27, 58885), (38, 59059), (39, 59077),

Gene: Schatzie_101 Start: 61869, Stop: 62204, Start Num: 25
Candidate Starts for Schatzie_101:
(Start: 25 @61869 has 56 MA's), (27, 61941), (38, 62115), (39, 62133),

Gene: Schnauzer_62 Start: 38759, Stop: 39223, Start Num: 25
Candidate Starts for Schnauzer_62:
(Start: 25 @38759 has 56 MA's), (27, 38831), (28, 38846), (32, 39005), (38, 39068), (41, 39155),

Gene: Silvafighter_63 Start: 38302, Stop: 38766, Start Num: 25
Candidate Starts for Silvafighter_63:
(Start: 25 @38302 has 56 MA's), (27, 38374), (28, 38389), (32, 38548), (38, 38611), (41, 38698),

Gene: Silvy_57 Start: 39395, Stop: 39856, Start Num: 25
Candidate Starts for Silvy_57:
(Start: 25 @39395 has 56 MA's), (27, 39467), (28, 39482), (32, 39641), (38, 39704), (41, 39791),

Gene: SkinnyPete_58 Start: 38506, Stop: 38970, Start Num: 25
Candidate Starts for SkinnyPete_58:
(Start: 25 @38506 has 56 MA's), (27, 38578), (28, 38593), (32, 38752), (38, 38815), (41, 38902),

Gene: Smurph_61 Start: 38759, Stop: 39223, Start Num: 25
Candidate Starts for Smurph_61:
(Start: 25 @38759 has 56 MA's), (27, 38831), (28, 38846), (32, 39005), (38, 39068), (41, 39155),

Gene: Soos_83 Start: 55576, Stop: 55950, Start Num: 25
Candidate Starts for Soos_83:
(13, 55414), (Start: 25 @55576 has 56 MA's), (36, 55807), (37, 55810), (41, 55906), (46, 55936),

Gene: Sting_86 Start: 56015, Stop: 56389, Start Num: 25
Candidate Starts for Sting_86:
(13, 55853), (Start: 25 @56015 has 56 MA's), (36, 56246), (37, 56249), (41, 56345), (46, 56375),

Gene: Tapioca_59 Start: 39339, Stop: 39740, Start Num: 25
Candidate Starts for Tapioca_59:
(4, 39042), (8, 39117), (12, 39156), (18, 39264), (19, 39270), (20, 39288), (Start: 25 @39339 has 56 MA's), (32, 39522), (38, 39585), (41, 39672),

Gene: ThreeRngTarjay_103 Start: 63154, Stop: 63486, Start Num: 25
Candidate Starts for ThreeRngTarjay_103:
(Start: 25 @63154 has 56 MA's), (31, 63334), (38, 63400), (39, 63418),

Gene: ThulaThula_64 Start: 43444, Stop: 43848, Start Num: 24
Candidate Starts for ThulaThula_64:
(Start: 24 @43444 has 1 MA's), (Start: 25 @43447 has 56 MA's), (31, 43627), (32, 43630), (38, 43693), (41, 43780), (43, 43789), (46, 43810),

Gene: Tortellini_67 Start: 45000, Stop: 45356, Start Num: 25
Candidate Starts for Tortellini_67:
(18, 44925), (19, 44931), (20, 44949), (Start: 25 @45000 has 56 MA's), (32, 45183), (38, 45246), (41, 45333),

Gene: Willsammy_60 Start: 40682, Stop: 41095, Start Num: 25
Candidate Starts for Willsammy_60:
(6, 40418), (10, 40487), (16, 40535), (18, 40607), (19, 40613), (20, 40631), (Start: 25 @40682 has 56 MA's), (32, 40865), (38, 40928),

Gene: Xerxes_61 Start: 38756, Stop: 39220, Start Num: 25
Candidate Starts for Xerxes_61:
(Start: 25 @38756 has 56 MA's), (27, 38828), (28, 38843), (32, 39002), (38, 39065), (41, 39152),

Gene: ZenTime222_58 Start: 39792, Stop: 40148, Start Num: 25
Candidate Starts for ZenTime222_58:
(Start: 25 @39792 has 56 MA's), (32, 39975), (38, 40038), (41, 40125),

Gene: Zucker_83 Start: 48730, Stop: 49089, Start Num: 23
Candidate Starts for Zucker_83:
(Start: 23 @48730 has 1 MA's), (29, 48886), (33, 48919), (38, 48979), (43, 49072),