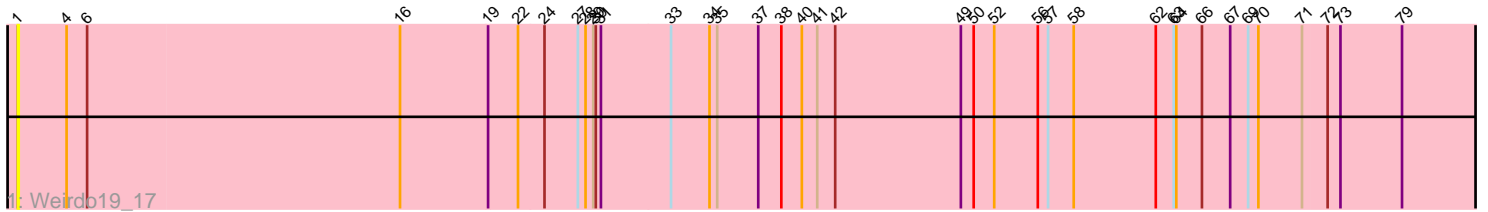
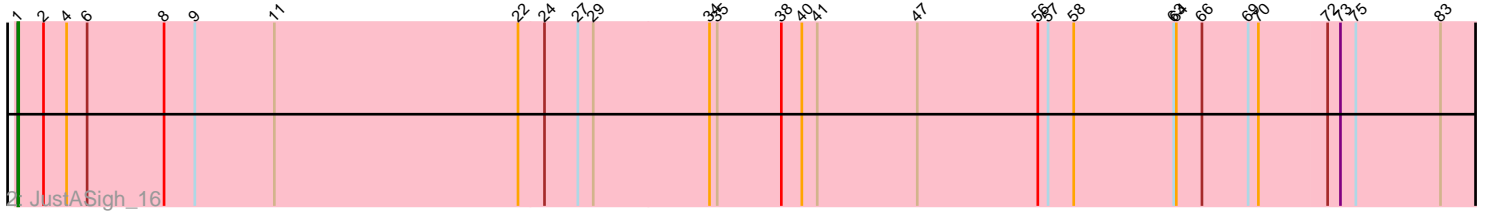


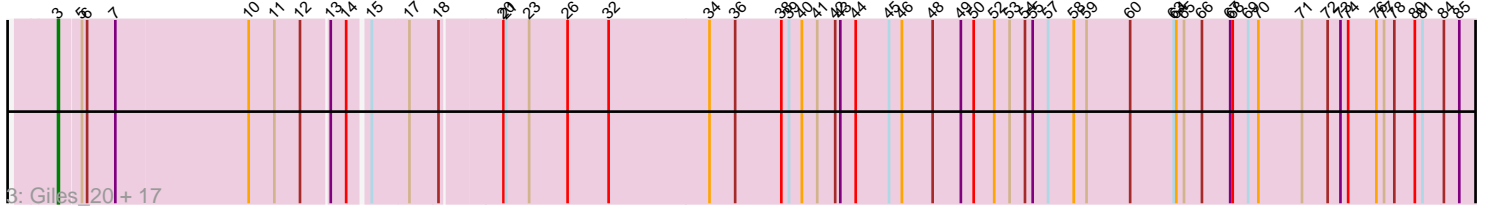
Zoomed Pham 200554



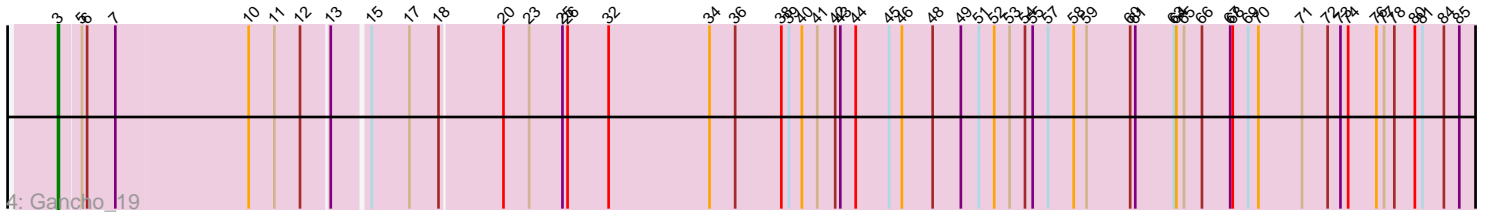
1: Weirdb19_17



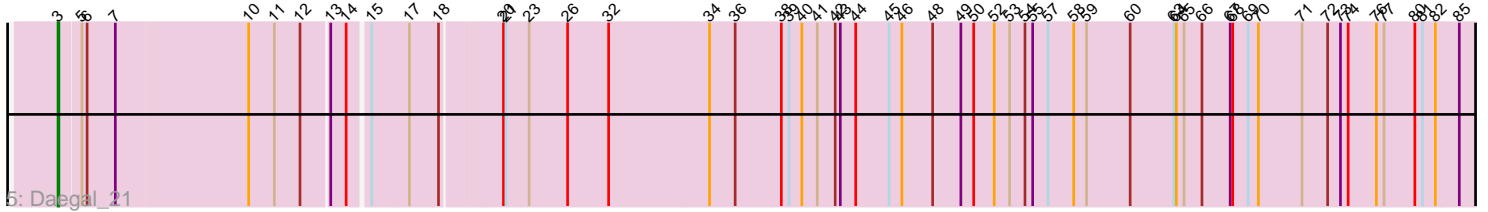
2: JustASigh_16



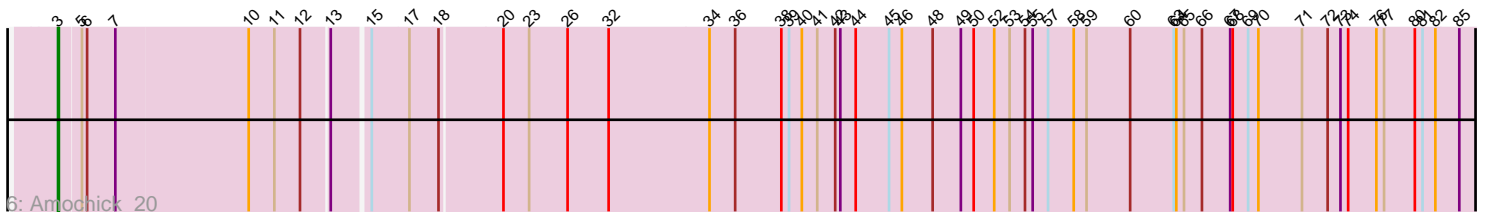
3: Giles_20+17



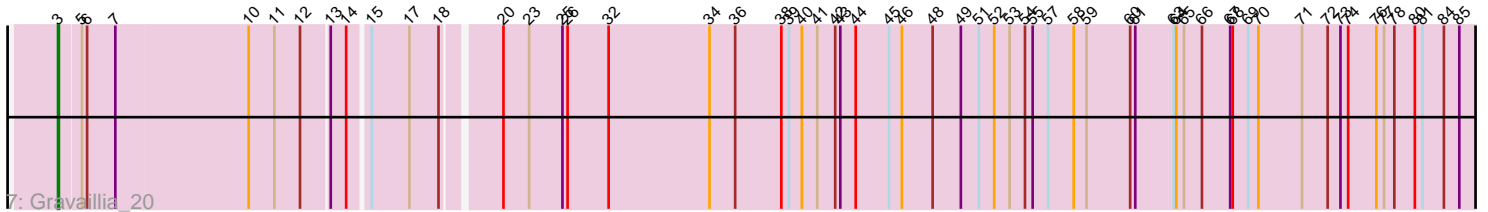
4: Gancho_19



5: Daegal_21



6: Amochick_20



7: Gravaillia_20

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 200554 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200554 has 24 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Weirdo19_17
- Track 2 : JustASigh_16
- Track 3 : Giles_20, HH92_20, Dewey_20, Wishmaker_20, Forge_20, OBUpride_20, Luke_20, Ubuntu_20, Luna22_20, LilHazelNut_20, Hail_20, Kinbote_20, Evanesce_20, Hadrien_20, DeepSoil15_20, Webster2_20, Amymech_20, Ein37_20
- Track 4 : Gancho_19
- Track 5 : Daegal_21
- Track 6 : Amochick_20
- Track 7 : Gravaillia_20

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

The start number called the most often in the published annotations is 3, it was called in 22 of the 23 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amochick_20, Amymech_20, Daegal_21, DeepSoil15_20, Dewey_20, Ein37_20, Evanesce_20, Forge_20, Gancho_19, Giles_20, Gravaillia_20, HH92_20, Hadrien_20, Hail_20, Kinbote_20, LilHazelNut_20, Luke_20, Luna22_20, OBUpride_20, Ubuntu_20, Webster2_20, Wishmaker_20,

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

-

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

- JustASigh_16, Weirdo19_17,

Summary by start number:

Start 1:

- Found in 2 of 24 (8.3%) of genes in pham
- Manual Annotations of this start: 1 of 23
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh_16 (AH), Weirdo19_17 (AH),

Start 3:

- Found in 22 of 24 (91.7%) of genes in pham
- Manual Annotations of this start: 22 of 23
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amochick_20 (Q), Amymech_20 (Q), Daegal_21 (Q), DeepSoil15_20 (Q), Dewey_20 (Q), Ein37_20 (Q), Evanesce_20 (Q), Forge_20 (Q), Gancho_19 (Q), Giles_20 (Q), Gravaillia_20 (Q), HH92_20 (Q), Hadrien_20 (Q), Hail_20 (Q), Kinbote_20 (Q), LilHazelNut_20 (Q), Luke_20 (Q), Luna22_20 (Q), OBUpride_20 (Q), Ubuntu_20 (Q), Webster2_20 (Q), Wishmaker_20 (Q),

Summary by clusters:

There are 2 clusters represented in this pham: Q, AH,

Info for manual annotations of cluster AH:

- Start number 1 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster Q:

- Start number 3 was manually annotated 22 times for cluster Q.

Gene Information:

Gene: Amochick_20 Start: 12219, Stop: 16304, Start Num: 3

Candidate Starts for Amochick_20:

(Start: 3 @12219 has 22 MA's), (5, 12243), (6, 12249), (7, 12282), (10, 12435), (11, 12465), (12, 12495), (13, 12525), (15, 12564), (17, 12606), (18, 12639), (20, 12708), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (80, 13773), (81, 13782), (82, 13797), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (92, 13947), (94, 13965), (95, 13977), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (114, 14214), (118, 14280), (120, 14313), (121, 14319), (124, 14352), (129, 14427), (130, 14439), (131, 14454), (132, 14457), (136, 14532), (137, 14553), (142, 14625), (143, 14628), (148, 14721), (149, 14754), (151, 14793), (152, 14805), (153, 14826), (158, 14895), (159, 14898), (162, 14934), (163, 14946), (165, 14961), (169, 14985), (170, 14988), (175, 15066), (176, 15075), (179, 15123), (181, 15156), (183, 15183), (186, 15264), (190, 15327), (191, 15369), (196, 15444), (198, 15543), (199, 15585), (201, 15663), (203, 15726), (204, 15768), (206, 15828), (207, 15846), (208, 15876), (209, 15885), (210, 15891), (212, 15906), (213, 16026), (214, 16044), (215, 16059), (216, 16062), (217, 16080), (224, 16128), (225, 16143), (226, 16176), (227, 16194), (229, 16233), (231, 16242), (233, 16254), (234, 16272), (236, 16296),

Gene: Amymech_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Amymech_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60,

13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Daegal_21 Start: 12510, Stop: 16592, Start Num: 3

Candidate Starts for Daegal_21:

(Start: 3 @12510 has 22 MA's), (5, 12534), (6, 12540), (7, 12573), (10, 12726), (11, 12756), (12, 12786), (13, 12816), (14, 12834), (15, 12855), (17, 12897), (18, 12930), (20, 12996), (21, 12999), (23, 13026), (26, 13071), (32, 13119), (34, 13236), (36, 13266), (38, 13320), (39, 13329), (40, 13344), (41, 13362), (42, 13383), (43, 13389), (44, 13407), (45, 13446), (46, 13461), (48, 13497), (49, 13530), (50, 13545), (52, 13569), (53, 13587), (54, 13605), (55, 13614), (57, 13632), (58, 13662), (59, 13677), (60, 13728), (63, 13779), (64, 13782), (65, 13791), (66, 13812), (67, 13845), (68, 13848), (69, 13866), (70, 13878), (71, 13929), (72, 13959), (73, 13974), (74, 13983), (76, 14016), (77, 14025), (80, 14061), (81, 14070), (82, 14085), (85, 14112), (88, 14190), (89, 14193), (90, 14196), (92, 14235), (94, 14253), (95, 14265), (99, 14295), (105, 14376), (108, 14400), (112, 14475), (114, 14502), (118, 14568), (120, 14601), (121, 14607), (124, 14640), (129, 14715), (130, 14727), (131, 14742), (132, 14745), (136, 14820), (137, 14841), (142, 14913), (143, 14916), (148, 15009), (149, 15042), (151, 15081), (152, 15093), (153, 15114), (158, 15183), (159, 15186), (162, 15222), (163, 15234), (165, 15249), (169, 15273), (170, 15276), (175, 15354), (176, 15363), (179, 15411), (181, 15444), (183, 15471), (186, 15552), (190, 15615), (191, 15657), (196, 15732), (198, 15831), (199, 15873), (201, 15951), (203, 16014), (204, 16056), (206, 16116), (207, 16134), (208, 16164), (209, 16173), (210, 16179), (212, 16194), (213, 16314), (214, 16332), (215, 16347), (216, 16350), (217, 16368), (224, 16416), (225, 16431), (226, 16464), (227, 16482), (229, 16521), (231, 16530), (233, 16542), (234, 16560), (236, 16584),

Gene: DeepSoil15_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for DeepSoil15_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041),

(215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Dewey_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Dewey_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Ein37_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Ein37_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Evanesce_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Evanesce_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70,

13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Forge_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Forge_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Gancho_19 Start: 11937, Stop: 16022, Start Num: 3

Candidate Starts for Gancho_19:

(Start: 3 @11937 has 22 MA's), (5, 11961), (6, 11967), (7, 12000), (10, 12153), (11, 12183), (12, 12213), (13, 12243), (15, 12282), (17, 12324), (18, 12357), (20, 12426), (23, 12456), (25, 12495), (26, 12501), (32, 12549), (34, 12666), (36, 12696), (38, 12750), (39, 12759), (40, 12774), (41, 12792), (42, 12813), (43, 12819), (44, 12837), (45, 12876), (46, 12891), (48, 12927), (49, 12960), (51, 12981), (52, 12999), (53, 13017), (54, 13035), (55, 13044), (57, 13062), (58, 13092), (59, 13107), (60, 13158), (61, 13164), (63, 13209), (64, 13212), (65, 13221), (66, 13242), (67, 13275), (68, 13278), (69, 13296), (70, 13308), (71, 13359), (72, 13389), (73, 13404), (74, 13413), (76, 13446), (77, 13455), (78, 13467), (80, 13491), (81, 13500), (84, 13524), (85, 13542), (88, 13620), (89, 13623), (90, 13626), (91, 13653), (92, 13665), (94, 13683), (95, 13695), (96, 13698), (98, 13716), (99, 13725), (105, 13806), (108, 13830), (112, 13905), (113, 13911), (114, 13932), (120, 14031), (121, 14037), (124, 14070), (129, 14145), (130, 14157), (131, 14172), (132, 14175), (136, 14250), (137, 14271), (140, 14301), (142, 14343), (143, 14346), (151, 14511), (152, 14523), (153, 14544), (158, 14613), (159, 14616), (162, 14652), (163, 14664), (169, 14703), (170, 14706), (175, 14784), (176, 14793), (179, 14841), (181, 14874), (183, 14901), (186, 14982), (191, 15087), (196, 15162), (198, 15261), (199, 15303), (201, 15381), (203, 15444), (204, 15486), (205, 15522), (206, 15546), (207, 15564), (208, 15594), (209, 15603), (210, 15609), (212, 15624), (213, 15744), (214, 15762), (215, 15777), (216, 15780), (217, 15798), (224, 15846), (225, 15861), (226, 15894), (227, 15912), (229, 15951), (231, 15960), (233, 15972),

(234, 15990), (236, 16014),

Gene: Giles_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Giles_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Gravaillia_20 Start: 11955, Stop: 16028, Start Num: 3

Candidate Starts for Gravaillia_20:

(Start: 3 @11955 has 22 MA's), (5, 11979), (6, 11985), (7, 12018), (10, 12171), (11, 12201), (12, 12231), (13, 12261), (14, 12279), (15, 12300), (17, 12342), (18, 12375), (20, 12432), (23, 12462), (25, 12501), (26, 12507), (32, 12555), (34, 12672), (36, 12702), (38, 12756), (39, 12765), (40, 12780), (41, 12798), (42, 12819), (43, 12825), (44, 12843), (45, 12882), (46, 12897), (48, 12933), (49, 12966), (51, 12987), (52, 13005), (53, 13023), (54, 13041), (55, 13050), (57, 13068), (58, 13098), (59, 13113), (60, 13164), (61, 13170), (63, 13215), (64, 13218), (65, 13227), (66, 13248), (67, 13281), (68, 13284), (69, 13302), (70, 13314), (71, 13365), (72, 13395), (73, 13410), (74, 13419), (76, 13452), (77, 13461), (78, 13473), (80, 13497), (81, 13506), (84, 13530), (85, 13548), (88, 13626), (89, 13629), (90, 13632), (91, 13659), (92, 13671), (94, 13689), (95, 13701), (96, 13704), (98, 13722), (99, 13731), (105, 13812), (108, 13836), (112, 13911), (113, 13917), (114, 13938), (120, 14037), (121, 14043), (124, 14076), (129, 14151), (130, 14163), (131, 14178), (132, 14181), (136, 14256), (137, 14277), (140, 14307), (142, 14349), (143, 14352), (151, 14517), (152, 14529), (153, 14550), (158, 14619), (159, 14622), (162, 14658), (163, 14670), (169, 14709), (170, 14712), (175, 14790), (176, 14799), (179, 14847), (181, 14880), (183, 14907), (186, 14988), (191, 15093), (196, 15168), (198, 15267), (199, 15309), (201, 15387), (203, 15450), (204, 15492), (205, 15528), (206, 15552), (207, 15570), (208, 15600), (209, 15609), (210, 15615), (212, 15630), (213, 15750), (214, 15768), (215, 15783), (216, 15786), (217, 15804), (224, 15852), (225, 15867), (226, 15900), (227, 15918), (229, 15957), (231, 15966), (233, 15978), (234, 15996), (236, 16020),

Gene: HH92_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for HH92_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80,

13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Hadrien_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Hadrien_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Hail_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Hail_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: JustASigh_16 Start: 11096, Stop: 15256, Start Num: 1

Candidate Starts for JustASigh_16:

(Start: 1 @11096 has 1 MA's), (2, 11126), (4, 11153), (6, 11177), (8, 11267), (9, 11300), (11, 11393), (22, 11678), (24, 11708), (27, 11747), (29, 11765), (34, 11900), (35, 11909), (38, 11984), (40, 12008), (41, 12026), (47, 12143), (56, 12284), (57, 12296), (58, 12326), (63, 12443), (64, 12446), (66, 12476), (69, 12530), (70, 12542), (72, 12620), (73, 12635), (75, 12653), (83, 12752), (86, 12809), (87, 12851), (91, 12890), (97, 12953), (102, 13001), (103, 13004), (106, 13046), (109, 13061), (110, 13091), (111, 13103), (114, 13154), (115, 13166), (117, 13220), (119, 13232), (123, 13286), (125, 13304), (126, 13310), (127, 13352), (133, 13436), (134, 13466), (138, 13541), (142, 13595), (150, 13739), (154, 13808), (155, 13838), (156, 13856), (157, 13859), (160, 13874), (161, 13895), (164, 13922), (167, 13949), (171, 13976), (172, 13994), (173, 14006), (174, 14012), (177, 14060), (180, 14114), (182, 14141), (185, 14234), (187, 14240), (192, 14345), (197, 14495), (200, 14612), (202, 14648), (211, 14864), (217, 15029), (220, 15050), (221, 15068), (227, 15131), (228, 15143), (235, 15242), (237, 15245),

Gene: Kinbote_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Kinbote_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: LilHazelnut_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for LilHazelnut_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366),

(196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Luke_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Luke_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Luna22_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Luna22_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: OBUpride_20 Start: 12216, Stop: 16295, Start Num: 3

Candidate Starts for OBUpride_20:

(Start: 3 @12216 has 22 MA's), (5, 12240), (6, 12246), (7, 12279), (10, 12432), (11, 12462), (12, 12492), (13, 12522), (14, 12540), (15, 12561), (17, 12603), (18, 12636), (20, 12702), (21, 12705), (23, 12732), (26, 12777), (32, 12825), (34, 12942), (36, 12972), (38, 13026), (39, 13035), (40, 13050), (41, 13068), (42, 13089), (43, 13095), (44, 13113), (45, 13152), (46, 13167), (48, 13203), (49, 13236), (50,

13251), (52, 13275), (53, 13293), (54, 13311), (55, 13320), (57, 13338), (58, 13368), (59, 13383), (60, 13434), (63, 13485), (64, 13488), (65, 13497), (66, 13518), (67, 13551), (68, 13554), (69, 13572), (70, 13584), (71, 13635), (72, 13665), (73, 13680), (74, 13689), (76, 13722), (77, 13731), (78, 13743), (80, 13767), (81, 13776), (84, 13800), (85, 13818), (88, 13896), (89, 13899), (90, 13902), (91, 13929), (92, 13941), (94, 13959), (95, 13971), (96, 13974), (98, 13992), (99, 14001), (105, 14082), (108, 14106), (112, 14181), (113, 14187), (116, 14229), (118, 14274), (120, 14307), (121, 14313), (129, 14421), (130, 14433), (131, 14448), (135, 14511), (136, 14523), (137, 14544), (140, 14574), (142, 14616), (143, 14619), (148, 14712), (149, 14745), (151, 14784), (152, 14796), (153, 14817), (158, 14886), (159, 14889), (162, 14925), (163, 14937), (165, 14952), (169, 14976), (170, 14979), (175, 15057), (176, 15066), (179, 15114), (181, 15147), (183, 15174), (186, 15255), (190, 15318), (191, 15360), (196, 15435), (198, 15534), (199, 15576), (201, 15654), (203, 15717), (204, 15759), (206, 15819), (207, 15837), (208, 15867), (209, 15876), (210, 15882), (212, 15897), (213, 16017), (214, 16035), (215, 16050), (216, 16053), (217, 16071), (224, 16119), (225, 16134), (226, 16167), (227, 16185), (229, 16224), (231, 16233), (233, 16245), (234, 16263), (236, 16287),

Gene: Ubuntu_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Ubuntu_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Webster2_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Webster2_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825),

(207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041),
(215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191),
(229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),

Gene: Weirido19_17 Start: 10901, Stop: 14980, Start Num: 1

Candidate Starts for Weirido19_17:

(Start: 1 @10901 has 1 MA's), (4, 10958), (6, 10982), (16, 11345), (19, 11447), (22, 11480), (24, 11510), (27, 11549), (28, 11558), (29, 11567), (30, 11570), (31, 11576), (33, 11657), (34, 11702), (35, 11711), (37, 11759), (38, 11786), (40, 11810), (41, 11828), (42, 11849), (49, 11996), (50, 12011), (52, 12035), (56, 12086), (57, 12098), (58, 12128), (62, 12224), (63, 12245), (64, 12248), (66, 12278), (67, 12311), (69, 12332), (70, 12344), (71, 12395), (72, 12422), (73, 12437), (79, 12509), (86, 12611), (91, 12692), (93, 12713), (100, 12779), (101, 12785), (102, 12803), (103, 12806), (104, 12818), (105, 12842), (107, 12854), (109, 12863), (112, 12929), (114, 12956), (115, 12968), (119, 13034), (122, 13076), (123, 13088), (124, 13100), (126, 13112), (128, 13166), (139, 13352), (141, 13373), (142, 13397), (144, 13421), (145, 13442), (146, 13451), (147, 13472), (149, 13526), (150, 13541), (155, 13640), (160, 13676), (164, 13724), (166, 13742), (167, 13751), (168, 13754), (175, 13844), (178, 13892), (184, 13973), (185, 14030), (188, 14042), (189, 14054), (193, 14147), (194, 14174), (195, 14186), (196, 14210), (201, 14387), (211, 14609), (218, 14756), (219, 14765), (220, 14774), (222, 14795), (223, 14798), (230, 14903), (232, 14909), (235, 14966), (237, 14969),

Gene: Wishmaker_20 Start: 12222, Stop: 16301, Start Num: 3

Candidate Starts for Wishmaker_20:

(Start: 3 @12222 has 22 MA's), (5, 12246), (6, 12252), (7, 12285), (10, 12438), (11, 12468), (12, 12498), (13, 12528), (14, 12546), (15, 12567), (17, 12609), (18, 12642), (20, 12708), (21, 12711), (23, 12738), (26, 12783), (32, 12831), (34, 12948), (36, 12978), (38, 13032), (39, 13041), (40, 13056), (41, 13074), (42, 13095), (43, 13101), (44, 13119), (45, 13158), (46, 13173), (48, 13209), (49, 13242), (50, 13257), (52, 13281), (53, 13299), (54, 13317), (55, 13326), (57, 13344), (58, 13374), (59, 13389), (60, 13440), (63, 13491), (64, 13494), (65, 13503), (66, 13524), (67, 13557), (68, 13560), (69, 13578), (70, 13590), (71, 13641), (72, 13671), (73, 13686), (74, 13695), (76, 13728), (77, 13737), (78, 13749), (80, 13773), (81, 13782), (84, 13806), (85, 13824), (88, 13902), (89, 13905), (90, 13908), (91, 13935), (92, 13947), (94, 13965), (95, 13977), (96, 13980), (98, 13998), (99, 14007), (105, 14088), (108, 14112), (112, 14187), (113, 14193), (116, 14235), (118, 14280), (120, 14313), (121, 14319), (129, 14427), (130, 14439), (131, 14454), (135, 14517), (136, 14529), (137, 14550), (140, 14580), (142, 14622), (143, 14625), (148, 14718), (149, 14751), (151, 14790), (152, 14802), (153, 14823), (158, 14892), (159, 14895), (162, 14931), (163, 14943), (165, 14958), (169, 14982), (170, 14985), (175, 15063), (176, 15072), (179, 15120), (181, 15153), (183, 15180), (186, 15261), (190, 15324), (191, 15366), (196, 15441), (198, 15540), (199, 15582), (201, 15660), (203, 15723), (204, 15765), (206, 15825), (207, 15843), (208, 15873), (209, 15882), (210, 15888), (212, 15903), (213, 16023), (214, 16041), (215, 16056), (216, 16059), (217, 16077), (224, 16125), (225, 16140), (226, 16173), (227, 16191), (229, 16230), (231, 16239), (233, 16251), (234, 16269), (236, 16293),