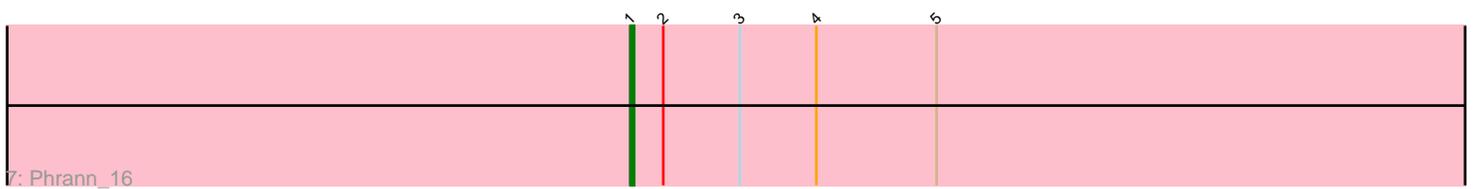
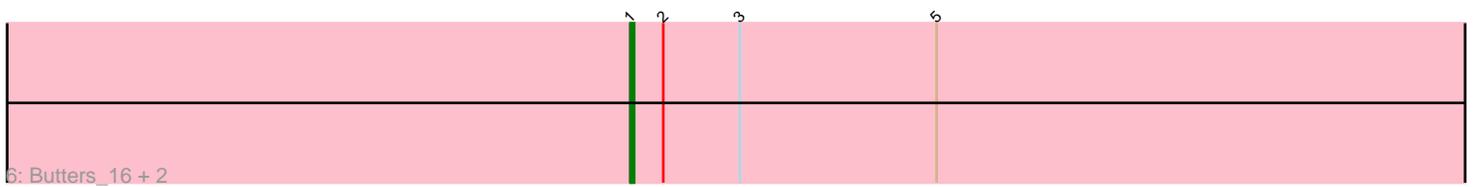
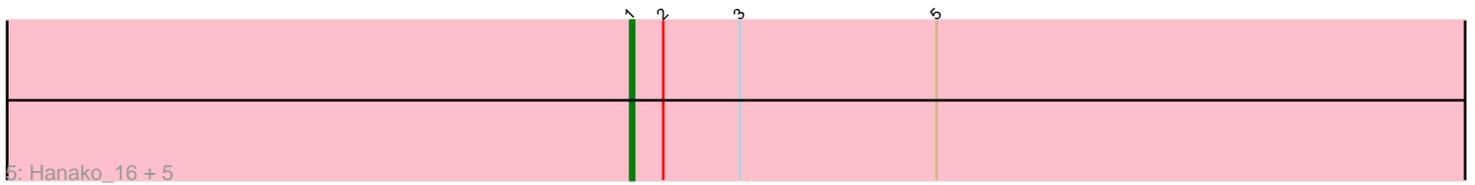
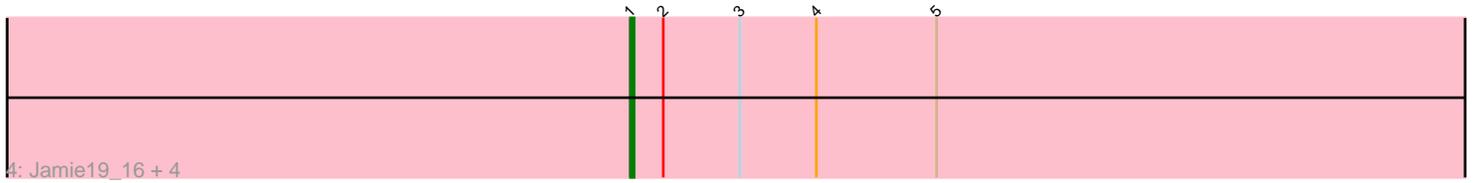
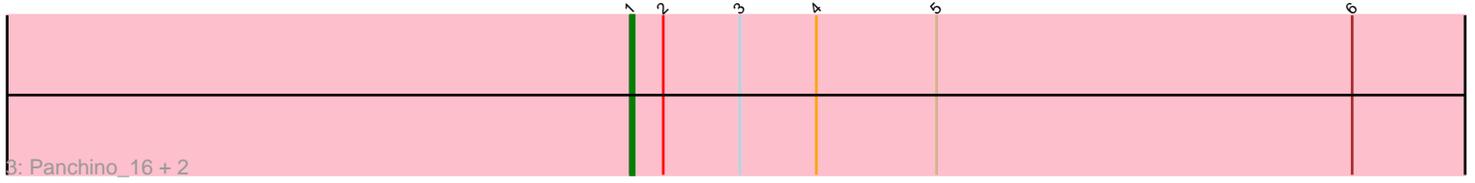
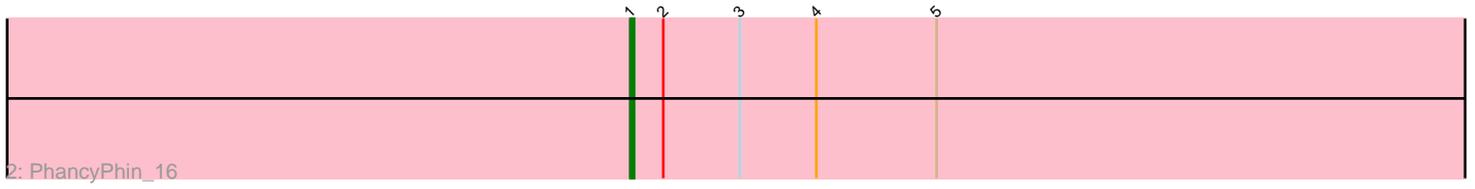
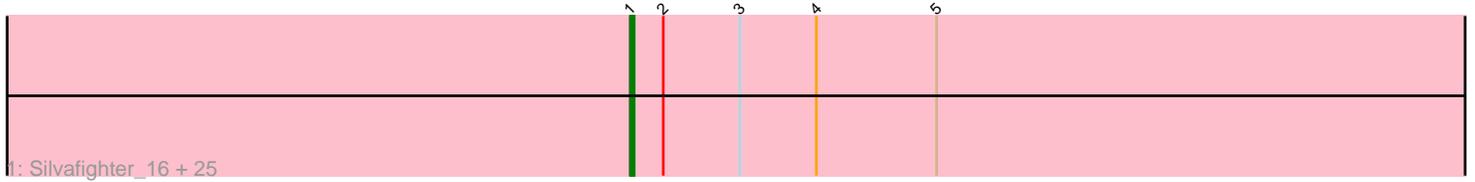


# Zoomed Pham 221530



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 221530 Report

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

Pham number 221530 has 46 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Silvafighter\_16, Magsby\_16, Duplicity\_16, Bosection6\_16, Phloss\_16, Tapioca\_16, Carcharodon\_16, EGUnicorn\_17, Gex\_16, Aggie\_16, Fulbright\_16, Charlie\_16, Journey\_16, Silvy\_16, Melville\_16, Scitech\_16, Xerxes\_16, Tortoise12\_16, Chewbacca\_16, Parmesanjohn\_16, Xeno\_16, Schnauzer\_16, Pipsqueaks\_16, Andies\_16, Philonius\_16, Smurph\_16
- Track 2 : PhancyPhin\_16
- Track 3 : Panchino\_16, Rebel\_16, SkinnyPete\_16
- Track 4 : Jamie19\_16, Shweta\_16, Raymond7\_16, SpongeBob\_16, Snekmaggedon\_16
- Track 5 : Hanako\_16, ShrimpFriedEgg\_16, Purgamenstris\_16, Nenae\_16, BabeRuth\_16, Redi\_16
- Track 6 : Butters\_16, Kevin1\_16, Rubeelu\_16
- Track 7 : Phrann\_16
- Track 8 : MichelleMyBell\_16

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

The start number called the most often in the published annotations is 1, it was called in 43 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aggie\_16, Andies\_16, BabeRuth\_16, Bosection6\_16, Butters\_16, Carcharodon\_16, Charlie\_16, Chewbacca\_16, Duplicity\_16, EGUnicorn\_17, Fulbright\_16, Gex\_16, Hanako\_16, Jamie19\_16, Journey\_16, Kevin1\_16, Magsby\_16, Melville\_16, MichelleMyBell\_16, Nenae\_16, Panchino\_16, Parmesanjohn\_16, PhancyPhin\_16, Philonius\_16, Phloss\_16, Phrann\_16, Pipsqueaks\_16, Purgamenstris\_16, Raymond7\_16, Rebel\_16, Redi\_16, Rubeelu\_16, Schnauzer\_16, Scitech\_16, ShrimpFriedEgg\_16, Shweta\_16, Silvafighter\_16, Silvy\_16, SkinnyPete\_16, Smurph\_16, Snekmaggedon\_16, SpongeBob\_16, Tapioca\_16, Tortoise12\_16, Xeno\_16, Xerxes\_16,

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

-

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

- 

### Summary by start number:

Start 1:

- Found in 46 of 46 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 43 of 43
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aggie\_16 (N), Andies\_16 (N), BabeRuth\_16 (N), Bosection6\_16 (N), Butters\_16 (N), Carcharodon\_16 (N), Charlie\_16 (N), Chewbacca\_16 (N), Duplicity\_16 (N), EGUnicorn\_17 (N), Fulbright\_16 (N), Gex\_16 (N), Hanako\_16 (N), Jamie19\_16 (N), Journey\_16 (N), Kevin1\_16 (N), Magsby\_16 (N), Melville\_16 (N), MichelleMyBell\_16 (N), Nenae\_16 (N), Panchino\_16 (N), Parmesanjohn\_16 (N), PhancyPhin\_16 (N), Philonius\_16 (N), Phloss\_16 (N), Phrann\_16 (N), Pipsqueaks\_16 (N), Purgamenstris\_16 (N), Raymond7\_16 (N), Rebel\_16 (N), Redi\_16 (N), Rubeelu\_16 (N), Schnauzer\_16 (N), Scitech\_16 (N), ShrimpFriedEgg\_16 (N), Shweta\_16 (N), Silvafighter\_16 (N), Silvy\_16 (N), SkinnyPete\_16 (N), Smurph\_16 (N), Snekmaggedon\_16 (N), SpongeBob\_16 (N), Tapioca\_16 (N), Tortoise12\_16 (N), Xeno\_16 (N), Xerxes\_16 (N),

### Summary by clusters:

There is one cluster represented in this pham: N

Info for manual annotations of cluster N:

- Start number 1 was manually annotated 43 times for cluster N.

### Gene Information:

Gene: Aggie\_16 Start: 10124, Stop: 13267, Start Num: 1

Candidate Starts for Aggie\_16:

(Start: 1 @10124 has 43 MA's), (2, 10133), (3, 10154), (4, 10175), (5, 10208), (8, 10472), (10, 10487), (11, 10496), (13, 10541), (14, 10550), (15, 10715), (18, 10748), (19, 10772), (20, 10817), (21, 10826), (22, 10859), (23, 10880), (32, 11381), (33, 11384), (36, 11453), (37, 11543), (38, 11552), (39, 11585), (42, 11645), (43, 11663), (44, 11684), (45, 11726), (46, 11765), (47, 11807), (49, 11849), (51, 11903), (52, 11906), (53, 11987), (54, 12104), (56, 12257), (60, 12479), (63, 12617), (64, 12635), (66, 12656), (68, 12719), (69, 12764), (71, 12833), (72, 12854), (73, 12863), (76, 12998), (77, 13016), (78, 13058), (79, 13166),

Gene: Andies\_16 Start: 10123, Stop: 13263, Start Num: 1

Candidate Starts for Andies\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12253), (60, 12475), (63, 12613), (64, 12631), (66, 12652), (68, 12715), (69, 12760), (71, 12829), (72, 12850), (73, 12859), (76, 12994), (77, 13012), (78, 13054), (79, 13162),

Gene: BabeRuth\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for BabeRuth\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (70, 12779), (71, 12836), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235),

Gene: Bosection6\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Bosection6\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Butters\_16 Start: 10144, Stop: 13233, Start Num: 1

Candidate Starts for Butters\_16:

(Start: 1 @10144 has 43 MA's), (2, 10153), (3, 10174), (5, 10228), (9, 10495), (11, 10516), (12, 10528), (16, 10738), (17, 10756), (18, 10768), (19, 10792), (21, 10846), (22, 10879), (23, 10900), (24, 11008), (25, 11011), (27, 11086), (28, 11236), (29, 11296), (31, 11365), (32, 11401), (33, 11404), (34, 11419), (35, 11452), (38, 11548), (39, 11581), (41, 11641), (42, 11644), (45, 11725), (46, 11764), (48, 11809), (49, 11848), (50, 11863), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (55, 12187), (56, 12253), (59, 12376), (60, 12475), (61, 12487), (69, 12727), (71, 12799), (75, 12943), (76, 12964), (77, 12982), (78, 13024), (79, 13132),

Gene: Carcharodon\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Carcharodon\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Charlie\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Charlie\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Chewbacca\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Chewbacca\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Duplicity\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Duplicity\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: EGUunicorn\_17 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for EGUunicorn\_17:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Fulbright\_16 Start: 10123, Stop: 13263, Start Num: 1

Candidate Starts for Fulbright\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12253), (60, 12475), (63, 12613), (64, 12631), (66, 12652), (68, 12715), (69, 12760), (71, 12829), (72, 12850), (73, 12859), (76, 12994), (77, 13012), (78, 13054), (79, 13162),

Gene: Gex\_16 Start: 10122, Stop: 13262, Start Num: 1

Candidate Starts for Gex\_16:

(Start: 1 @10122 has 43 MA's), (2, 10131), (3, 10152), (4, 10173), (5, 10206), (8, 10470), (10, 10485), (11, 10494), (13, 10539), (14, 10548), (15, 10713), (18, 10746), (19, 10770), (20, 10815), (21, 10824), (22, 10857), (23, 10878), (32, 11379), (33, 11382), (36, 11451), (37, 11541), (38, 11550), (39, 11583), (42, 11643), (43, 11661), (44, 11682), (45, 11724), (46, 11763), (47, 11805), (49, 11847), (51, 11901), (52, 11904), (53, 11985), (54, 12102), (56, 12252), (60, 12474), (63, 12612), (64, 12630), (66, 12651), (68, 12714), (69, 12759), (71, 12828), (72, 12849), (73, 12858), (76, 12993), (77, 13011), (78, 13053), (79, 13161),

Gene: Hanako\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Hanako\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429),

(34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (70, 12779), (71, 12836), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235),

Gene: Jamie19\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Jamie19\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12836), (74, 12920), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235), (81, 13250),

Gene: Journey\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Journey\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Kevin1\_16 Start: 10145, Stop: 13234, Start Num: 1

Candidate Starts for Kevin1\_16:

(Start: 1 @10145 has 43 MA's), (2, 10154), (3, 10175), (5, 10229), (9, 10496), (11, 10517), (12, 10529), (16, 10739), (17, 10757), (18, 10769), (19, 10793), (21, 10847), (22, 10880), (23, 10901), (24, 11009), (25, 11012), (27, 11087), (28, 11237), (29, 11297), (31, 11366), (32, 11402), (33, 11405), (34, 11420), (35, 11453), (38, 11549), (39, 11582), (41, 11642), (42, 11645), (45, 11726), (46, 11765), (48, 11810), (49, 11849), (50, 11864), (51, 11903), (52, 11906), (53, 11987), (54, 12104), (55, 12188), (56, 12254), (59, 12377), (60, 12476), (61, 12488), (69, 12728), (71, 12800), (75, 12944), (76, 12965), (77, 12983), (78, 13025), (79, 13133),

Gene: Magsby\_16 Start: 10123, Stop: 13263, Start Num: 1

Candidate Starts for Magsby\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12253), (60, 12475), (63, 12613), (64, 12631), (66, 12652), (68, 12715), (69, 12760), (71, 12829), (72, 12850), (73, 12859), (76, 12994), (77, 13012), (78, 13054), (79, 13162),

Gene: Melville\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Melville\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057),

(79, 13165),

Gene: MichelleMyBell\_16 Start: 10163, Stop: 13264, Start Num: 1

Candidate Starts for MichelleMyBell\_16:

(Start: 1 @10163 has 43 MA's), (2, 10172), (3, 10193), (5, 10247), (6, 10361), (9, 10514), (11, 10535), (12, 10547), (16, 10757), (17, 10775), (18, 10787), (19, 10811), (21, 10865), (22, 10898), (23, 10919), (24, 11027), (25, 11030), (27, 11105), (28, 11255), (29, 11315), (31, 11384), (32, 11420), (33, 11423), (34, 11438), (35, 11471), (38, 11567), (39, 11600), (41, 11660), (42, 11663), (46, 11783), (48, 11828), (49, 11867), (50, 11882), (51, 11921), (52, 11924), (54, 12122), (56, 12269), (57, 12320), (58, 12362), (59, 12392), (60, 12491), (61, 12503), (62, 12617), (65, 12644), (67, 12710), (68, 12719), (69, 12758), (71, 12830), (74, 12914), (75, 12974), (76, 12995), (78, 13055), (79, 13163),

Gene: Nenae\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Nenae\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (70, 12779), (71, 12836), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235),

Gene: Panchino\_16 Start: 10145, Stop: 13243, Start Num: 1

Candidate Starts for Panchino\_16:

(Start: 1 @10145 has 43 MA's), (2, 10154), (3, 10175), (4, 10196), (5, 10229), (6, 10343), (7, 10385), (11, 10517), (12, 10529), (14, 10571), (15, 10736), (16, 10739), (17, 10757), (18, 10769), (19, 10793), (21, 10847), (22, 10880), (23, 10901), (24, 11009), (25, 11012), (26, 11042), (27, 11087), (29, 11297), (30, 11363), (31, 11366), (32, 11402), (33, 11405), (34, 11420), (35, 11453), (38, 11549), (39, 11582), (40, 11627), (41, 11642), (42, 11645), (44, 11684), (45, 11726), (46, 11765), (48, 11810), (50, 11864), (51, 11903), (52, 11906), (54, 12104), (56, 12254), (59, 12377), (60, 12476), (65, 12626), (67, 12692), (68, 12701), (69, 12740), (71, 12809), (74, 12893), (75, 12953), (76, 12974), (78, 13034), (79, 13142), (80, 13208), (81, 13223),

Gene: Parmesanjohn\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Parmesanjohn\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: PhancyPhin\_16 Start: 10169, Stop: 13267, Start Num: 1

Candidate Starts for PhancyPhin\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (61, 12512), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12833), (75, 12977), (76, 12998), (77, 13016), (78, 13058), (79, 13166), (80, 13232), (81, 13247),

Gene: Philonius\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Philonius\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Phloss\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Phloss\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Phrann\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Phrann\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12836), (74, 12920), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235), (81, 13250),

Gene: Pipsqueaks\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Pipsqueaks\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Purgamenstris\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Purgamenstris\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (70, 12779), (71, 12836), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235),

Gene: Raymond7\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Raymond7\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12836), (74, 12920), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235), (81, 13250),

Gene: Rebel\_16 Start: 10169, Stop: 13267, Start Num: 1

Candidate Starts for Rebel\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (6, 10367), (7, 10409), (11, 10541), (12, 10553), (14, 10595), (15, 10760), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (29, 11321), (30, 11387), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12833), (74, 12917), (75, 12977), (76, 12998), (78, 13058), (79, 13166), (80, 13232), (81, 13247),

Gene: Redi\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Redi\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (70, 12779), (71, 12836), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235),

Gene: Rubeelu\_16 Start: 10144, Stop: 13233, Start Num: 1

Candidate Starts for Rubeelu\_16:

(Start: 1 @10144 has 43 MA's), (2, 10153), (3, 10174), (5, 10228), (9, 10495), (11, 10516), (12, 10528), (16, 10738), (17, 10756), (18, 10768), (19, 10792), (21, 10846), (22, 10879), (23, 10900), (24, 11008), (25, 11011), (27, 11086), (28, 11236), (29, 11296), (31, 11365), (32, 11401), (33, 11404), (34, 11419), (35, 11452), (38, 11548), (39, 11581), (41, 11641), (42, 11644), (45, 11725), (46, 11764), (48, 11809), (49, 11848), (50, 11863), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (55, 12187), (56, 12253), (59, 12376), (60, 12475), (61, 12487), (69, 12727), (71, 12799), (75, 12943), (76, 12964), (77, 12982), (78, 13024), (79, 13132),

Gene: Schnauzer\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Schnauzer\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Scitech\_16 Start: 10123, Stop: 13263, Start Num: 1

Candidate Starts for Scitech\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825),

(22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12253), (60, 12475), (63, 12613), (64, 12631), (66, 12652), (68, 12715), (69, 12760), (71, 12829), (72, 12850), (73, 12859), (76, 12994), (77, 13012), (78, 13054), (79, 13162),

Gene: ShrimpFriedEgg\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for ShrimpFriedEgg\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (62, 12626), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (70, 12779), (71, 12836), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235),

Gene: Shweta\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Shweta\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12836), (74, 12920), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235), (81, 13250),

Gene: Silvafighter\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Silvafighter\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Silvy\_16 Start: 10124, Stop: 13267, Start Num: 1

Candidate Starts for Silvy\_16:

(Start: 1 @10124 has 43 MA's), (2, 10133), (3, 10154), (4, 10175), (5, 10208), (8, 10472), (10, 10487), (11, 10496), (13, 10541), (14, 10550), (15, 10715), (18, 10748), (19, 10772), (20, 10817), (21, 10826), (22, 10859), (23, 10880), (32, 11381), (33, 11384), (36, 11453), (37, 11543), (38, 11552), (39, 11585), (42, 11645), (43, 11663), (44, 11684), (45, 11726), (46, 11765), (47, 11807), (49, 11849), (51, 11903), (52, 11906), (53, 11987), (54, 12104), (56, 12257), (60, 12479), (63, 12617), (64, 12635), (66, 12656), (68, 12719), (69, 12764), (71, 12833), (72, 12854), (73, 12863), (76, 12998), (77, 13016), (78, 13058), (79, 13166),

Gene: SkinnyPete\_16 Start: 10169, Stop: 13267, Start Num: 1

Candidate Starts for SkinnyPete\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (6, 10367), (7, 10409), (11, 10541), (12, 10553), (14, 10595), (15, 10760), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (29, 11321), (30, 11387), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888),

(51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12833), (74, 12917), (75, 12977), (76, 12998), (78, 13058), (79, 13166), (80, 13232), (81, 13247),

Gene: Smurph\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Smurph\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Snekmaggedon\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for Snekmaggedon\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12836), (74, 12920), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235), (81, 13250),

Gene: SpongeBob\_16 Start: 10169, Stop: 13270, Start Num: 1

Candidate Starts for SpongeBob\_16:

(Start: 1 @10169 has 43 MA's), (2, 10178), (3, 10199), (4, 10220), (5, 10253), (7, 10409), (11, 10541), (12, 10553), (16, 10763), (17, 10781), (18, 10793), (19, 10817), (21, 10871), (22, 10904), (23, 10925), (24, 11033), (25, 11036), (26, 11066), (27, 11111), (28, 11261), (29, 11321), (31, 11390), (32, 11426), (33, 11429), (34, 11444), (35, 11477), (38, 11573), (39, 11606), (40, 11651), (41, 11666), (42, 11669), (44, 11708), (45, 11750), (46, 11789), (48, 11834), (50, 11888), (51, 11927), (52, 11930), (54, 12128), (56, 12278), (59, 12401), (60, 12500), (65, 12650), (67, 12716), (68, 12725), (69, 12764), (71, 12836), (74, 12920), (75, 12980), (76, 13001), (78, 13061), (79, 13169), (80, 13235), (81, 13250),

Gene: Tapioca\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Tapioca\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Tortoise12\_16 Start: 10123, Stop: 13266, Start Num: 1

Candidate Starts for Tortoise12\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12256), (60, 12478), (63, 12616), (64, 12634), (66, 12655), (68, 12718), (69, 12763), (71, 12832), (72, 12853), (73, 12862), (76, 12997), (77, 13015), (78, 13057), (79, 13165),

Gene: Xeno\_16 Start: 10123, Stop: 13263, Start Num: 1

Candidate Starts for Xeno\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12253), (60, 12475), (63, 12613), (64, 12631), (66, 12652), (68, 12715), (69, 12760), (71, 12829), (72, 12850), (73, 12859), (76, 12994), (77, 13012), (78, 13054), (79, 13162),

Gene: Xerxes\_16 Start: 10123, Stop: 13263, Start Num: 1

Candidate Starts for Xerxes\_16:

(Start: 1 @10123 has 43 MA's), (2, 10132), (3, 10153), (4, 10174), (5, 10207), (8, 10471), (10, 10486), (11, 10495), (13, 10540), (14, 10549), (15, 10714), (18, 10747), (19, 10771), (20, 10816), (21, 10825), (22, 10858), (23, 10879), (32, 11380), (33, 11383), (36, 11452), (37, 11542), (38, 11551), (39, 11584), (42, 11644), (43, 11662), (44, 11683), (45, 11725), (46, 11764), (47, 11806), (49, 11848), (51, 11902), (52, 11905), (53, 11986), (54, 12103), (56, 12253), (60, 12475), (63, 12613), (64, 12631), (66, 12652), (68, 12715), (69, 12760), (71, 12829), (72, 12850), (73, 12859), (76, 12994), (77, 13012), (78, 13054), (79, 13162),