

Table S1. Relative abundance ($e^{-\Delta Ct}$) of several microorganisms to the total bacterial 16s rDNA in the rumen solid adherent of goats were fed with the four diets (CON, ALG20, ALG40 and ALG60) at three sampling time (20, 40, 60 experimental days).

| | DIET | | | | SAMPLING TIME | | | | EFFECT‡ | | | |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------|----------------------|-----------------------|-----------------------|---------|--------|--------|-------|
| | CON | ALG20 | ALG40 | ALG60 | SEM† | 20 | 40 | 60 | SEM† | D | T | DxT |
| Bacteroidetes | 0.489 ^t | 0.472 | 0.415 | 0.399 ^t | 0.026 | 0.401 ^a | 0.464 ^{ab} | 0.466 ^b | 0.018 | 0.065 | 0.049 | 0.600 |
| Firmicutes | 0.315 ^a | 0.237 ^b | 0.191 ^b | 0.217 ^b | 0.015 | 0.214 | 0.258 | 0.249 | 0.014 | <0.001 | 0.143 | 0.793 |
| Archaea | 0.011 ^a | 0.008 ^b | 0.006 ^c | 0.006 ^c | 0.001 | 0.005 ^a | 0.009 ^b | 0.009 ^b | 0.001 | <0.001 | <0.001 | 0.043 |
| Methanogens | 0.00082 ^a | 0.00045 ^b | 0.00035 ^b | 0.00036 ^b | <0.001 | 0.00019 ^a | 0.00066 ^b | 0.00064 ^b | <0.001 | 0.041 | 0.000 | 0.767 |
| <i>Methanomassiliicoccales spp.</i> | 0.00043 ^a | 0.00023 ^b | 0.00022 ^b | 0.00015 ^b | <0.001 | 0.00017 ^a | 0.00030 ^b | 0.00030 ^b | <0.001 | <0.001 | <0.001 | 0.308 |
| <i>Methanobrevibacter spp.</i> | 0.00019 ^a | 0.00004 ^b | 0.00003 ^b | 0.00004 ^b | <0.001 | 0.00005 ^a | 0.00008 ^b | 0.00009 ^b | <0.001 | 0.048 | 0.017 | 0.048 |
| <i>Methanospaera stadtmanae</i> | 0.00004 ^a | 0.00002 ^b | 0.00002 ^b | 0.00001 ^b | <0.001 | 0.00003 | 0.00001 | 0.00003 | <0.001 | 0.026 | 0.465 | 0.678 |
| <i>Methanobacterium formicum</i> | 0.000007 ^a | 0.000002 ^b | 0.000001 ^b | 0.000002 ^b | <0.001 | 0.000002 | 0.000004 | 0.000003 | <0.001 | 0.001 | 0.051 | 0.210 |
| Protozoa | 0.0017 | 0.0029 | 0.0019 | 0.0020 | <0.001 | 0.0013 ^a | 0.0031 ^b | 0.0021 ^c | <0.001 | 0.102 | 0.007 | 0.030 |
| <i>Entodinium spp.</i> | 0.0010 ^t | 0.0023 ^t | 0.0014 | 0.0018 | <0.001 | 0.0013 ^b | 0.0022 ^a | 0.0013 ^b | <0.001 | 0.076 | 0.018 | 0.167 |
| Total anaerobic fungi | 0.0011 | 0.0006 | 0.0005 | 0.0006 | <0.001 | 0.0008 ^a | 0.0005 ^b | 0.0008 ^{ab} | <0.001 | 0.239 | <0.001 | 0.395 |
| Neocallimastigales-specific | 0.0004 ^a | 0.0003 ^b | 0.0002 ^b | 0.0002 ^b | <0.001 | 0.0002 ^a | 0.0004 ^b | 0.0004 ^b | <0.001 | 0.016 | <0.001 | 0.788 |
| <i>Eubacterium ruminantium</i> | 0.0023 | 0.0018 | 0.0016 | 0.0016 | <0.001 | 0.0018 | 0.0020 | 0.0016 | <0.001 | 0.464 | 0.495 | 0.156 |
| <i>Butyrivibrio fibrisolvens</i> | 0.132 ^a | 0.099 ^b | 0.084 ^b | 0.104 ^b | 0.006 | 0.099 | 0.108 | 0.106 | 0.005 | <0.001 | 0.666 | 0.471 |
| <i>Butyrivibrio proteoclasticus</i> | 0.011 | 0.010 | 0.007 | 0.009 | 0.001 | 0.008 ^a | 0.010 ^b | 0.010 ^b | 0.001 | 0.173 | 0.046 | 0.597 |
| <i>Ruminococcus flavefaciens</i> | 0.007 ^a | 0.002 ^b | 0.001 ^b | 0.002 ^b | 0.001 | 0.003 | 0.003 | 0.003 | 0.001 | 0.004 | 0.888 | 0.801 |
| <i>Fibrobacter succinogenes</i> | 0.012 | 0.008 | 0.003 | 0.012 | 0.003 | 0.018 ^a | 0.004 ^b | 0.004 ^b | 0.001 | 0.127 | 0.003 | 0.305 |
| <i>Ruminococcus albus</i> | 0.005 | 0.004 | 0.005 | 0.003 | 0.001 | 0.002 ^a | 0.004 ^b | 0.007 ^c | 0.000 | 0.414 | 0.001 | 0.125 |
| <i>Ruminobacter amylophilus</i> | 0.003 | 0.007 | 0.012 | 0.015 | 0.004 | 0.009 | 0.005 | 0.014 | 0.003 | 0.141 | 0.087 | 0.010 |
| <i>Streptococcus bovis</i> | 0.000012 | 0.000008 | 0.000009 | 0.000008 | <0.001 | 0.00002 ^a | 0.000007 ^b | 0.000008 ^c | <0.001 | 0.819 | 0.001 | 0.288 |
| <i>Selenomonas ruminantium</i> | 0.0026 | 0.0026 | 0.0022 | 0.0028 | <0.001 | 0.0031 | 0.0024 | 0.0024 | <0.001 | 0.389 | 0.091 | 0.999 |
| <i>Prevotella spp.</i> | 0.249 | 0.309 | 0.288 | 0.255 | 0.027 | 0.297 | 0.261 | 0.269 | 0.018 | 0.363 | 0.299 | 0.369 |
| <i>Prevotella brevis</i> | 0.0008 | 0.0005 | 0.0007 | 0.0007 | <0.001 | 0.0005 | 0.0007 | 0.0008 | <0.001 | 0.724 | 0.273 | 0.685 |
| <i>Prevotella ruminicola</i> | 0.0030 ^a | 0.0036 ^a | 0.0018 ^b | 0.0017 ^b | <0.001 | 0.0020 | 0.0025 | 0.0030 | <0.001 | 0.009 | 0.115 | 0.485 |

CON= control concentrate without microalgae; ALG20= control concentrate with 20 g/ Kg *Schizochytrium* spp.; ALG40= control concentrate with 40 g/ Kg *Schizochytrium* spp.; ALG60= control concentrate with 60 g/ Kg *Schizochytrium* spp. Means with different superscript (a, b, c) between dietary treatments and (a, b, c) between sampling time differ significantly ($p \leq 0.05$). † SEM: Standard error of the mean. ‡ Effect: The dietary treatment (D), time (T), and the interaction

between dietary treatment \times time (DxT) effects were analyzed by ANOVA using a general linear model (GLM) for repeated measures and Post hoc analysis was performed when appropriate using Turkey's multiple range test. t = tendency, P-value < 0.10.