

Determining lineage-specific bacterial growth curves with a novel approach based on amplicon reads normalization using internal standard (ARNIS).

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Running Head: High resolution data on bacterial growth rates

Results

Types of bacterial response to the experimental grazer removal

The general picture of bacterial responses differed for phyla and classes (Fig. 5). 50% of OTUs affiliated with Actinobacteria belonged to Type A, including many OTUs affiliated with an abundant freshwater clade Ac1. Type B comprised 13% of Actinobacteria, e.g. *Aquiluna* and *Planktoluna*. Interestingly, 27% of Actinobacterial OTUs grew only in the filtered treatment (Type C), e.g. OTUs affiliated with clade Ac1, *Planktophila* and *Limnoluna*. None of Actinobacteria belonged to Type D, and only 6% to Type E, for example Microbacteriaceae and Acidimicrobineae (Fig. 5).

Contrasting pattern was observed for Bacteroidetes, of which only 7% belonged to Type A (mainly uncultured Sphingobacteriales from marine group NS11-12, Fig. 5), and 21% to Type B (e.g. *Algoriphagus*, *Flavobacterium* and *Pedobacter*). Most Bacteroidetes, including many Chitinophagaceae, belonged to Type C. Only 10% belonged to Type D (e.g. *Chryseobacterium*, *Flavobacterium* and *Pedobacter*), and 27% to Type E (Fig. 5), for instance *Candidatus Aquirestis*, *Ferruginibacter*, *Chryseobacterium* and *Hydrotalea*.

Almost all OTUs affiliated with Planctomycetes (including genera *Pirellula*, *Rhodopirellula* and many unclassified OTUs) belonged to Type E, while Type A and Type B each included one unclassified OTU from class Planctomycetaceae (Fig. 5).

Five Verrucomicrobial OTUs belonged to Type A (mainly unclassified), six to Type B (e.g. *Prostheco bacter*, *Brevifollis* but mainly FukuN18 freshwater group), and seven to Type C (FukuN18 group, OPB35 soil group, *Luteolibacter*, Chthoniobacterales, Opitutae). Type E was

dominant (14 OTUs, mainly *Prostheco bacter* or unclassified), but not a single OTU belonged to Type D (Fig. 5).

The distribution of response types among phylum Proteobacteria was similar to all bacteria (Type A: 20%, Type B: 15%, Type C: 29%, Type D: 9% and Type E: 26%), but showed pronounced differences at the class level (Fig. 5). Four of Alphaproteobacterial OTUs belonged to Type A (e.g. *Methylobacterium*), and four to Type B (e.g. *Roseomonas*). Three belonged to Type C (e.g. LD12 group) or Type D (e.g. *Brevundimonas*), while clearly dominant Type E contained eleven OTUs (e.g. Sphingomonadales, Hyphomonadaceae, *Caulobacter*, *Phenylobacterium*, Fig. 5). In contrast, almost half of Betaproteobacterial OTUs were classified to Type C (17 OTUs, e.g. *Limnohabitans*, *Polynucleobacter*), while only five belonged to Type B (from Comamonadaceae) or Type E (e.g. Comamonadaceae and Nitrosomonadaceae), and eleven to Type A (Comamonadaceae and Burkholderiales, Fig. 5). Type C was also the most common for Gammaproteobacteria (eight OTUs, e.g. *Pseudomonas*, *Rheinheimera*). Single unclassified OTU belonged to Type A, three OTUs to Type B (*Acinetobacter*, *Legionella*), three to Type D (*Legionella* and CHAB XI-27 clade), and two to Type E (*Aeromonas* and BD1-7 clade, Fig. 5).



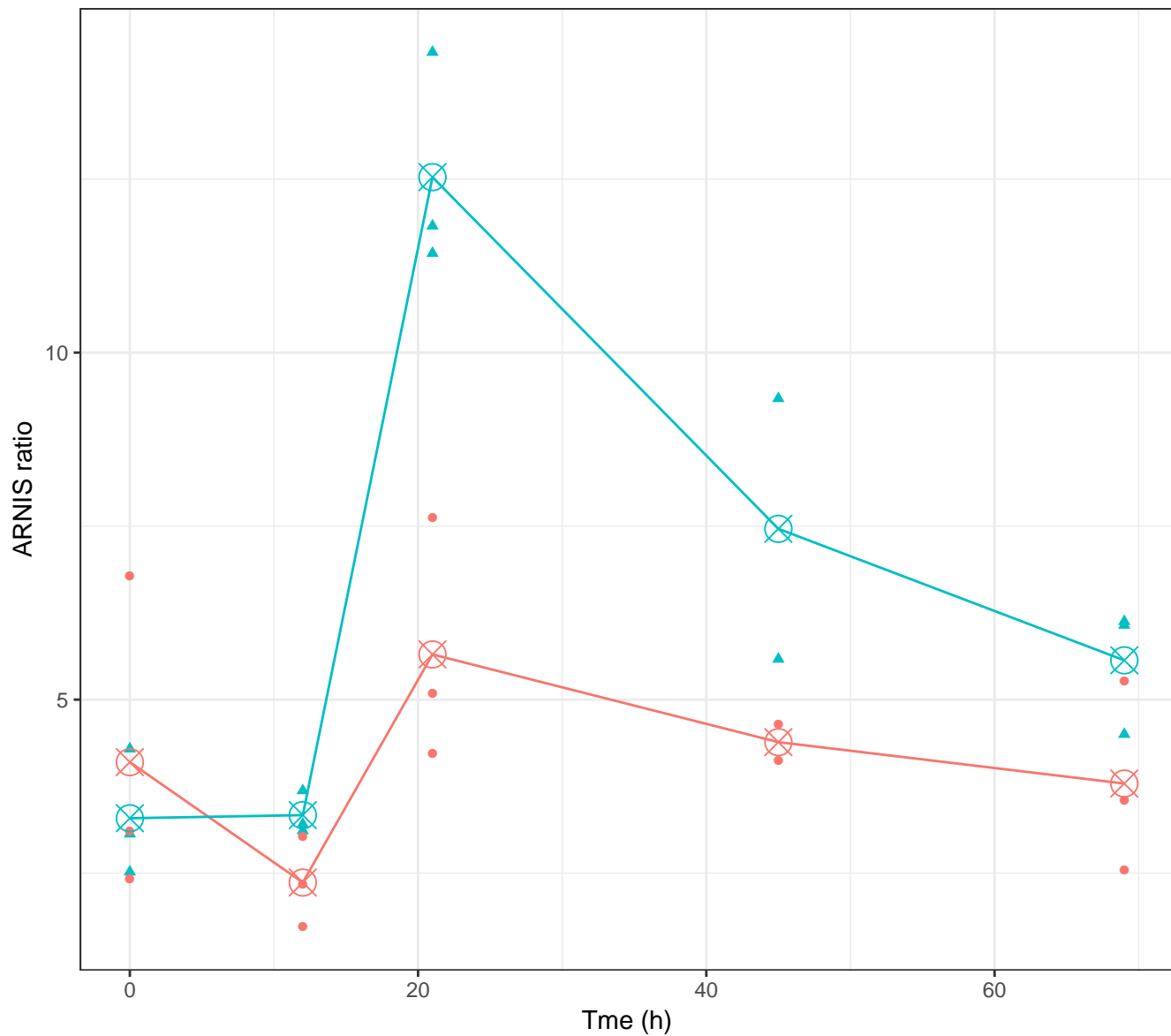
Bacterial growth rates and whole community response to the experimental grazer removal

The observed bulk growth rates were resultant of individual growth rates of different bacterial phylotypes in the treatments (Fig. 6B-E). In the control treatment, the initial growth rates ranged from -7.1 (*Leptospira*, Spirochaetes) to 10.7 d⁻¹ (*Aeromonas*, Gammaproteobacteria), and showed bimodal distribution (Fig. 6B). Top 10 of the fastest growing (> 7.4 d⁻¹) OTUs were affiliated within Bacteroidetes (e.g. *Emticicia*, Saprospiraceae, *Chryseobacterium*), Firmicutes, and Proteobacteria (Comamonadaceae), while the top 10 OTUs with the fastest decay rates (< -4.2 d⁻¹) belonged to Actinobacteria (clade Ac1, Microbacteriaceae), Verrucomicrobia (Opitutae,

Verrucomicrobiaceae), Bacteroidetes (e.g. Chitinophagaceae, Sphingobacteriales), Planctomycetes, and Proteobacteria (*Brevundimonas*, Comamonadaceae). The distribution of the growth rates remained bimodal in the second stage of the control experiments (after 21h), but it became more skewed toward negative values, and the range narrowed (Fig. 6C): it varied from -5.0 (*Staphylococcus*, Firmicutes) to 3.3 d⁻¹ (uncultured Planctomycetes). Top 10 of the fastest growing (> 2.3 d⁻¹) OTUs in this second stage were affiliated with Actinobacteria (clade Ac1, *Limnoluna*), Bacteroidetes, Planctomycetes, Aquificae), and Proteobacteria (Acetobacteraceae, *Aquabacterium*). The top 10 OTUs with fastest decay rates (< -1.8 d⁻¹) belonged to Actinobacteria (Corynebacteriaceae, *Propionibacterium*), Bacteroidetes, Planctomycetes, and Proteobacteria (*Methylobacterium*, *Acinetobacter*, *Aeromonas*).

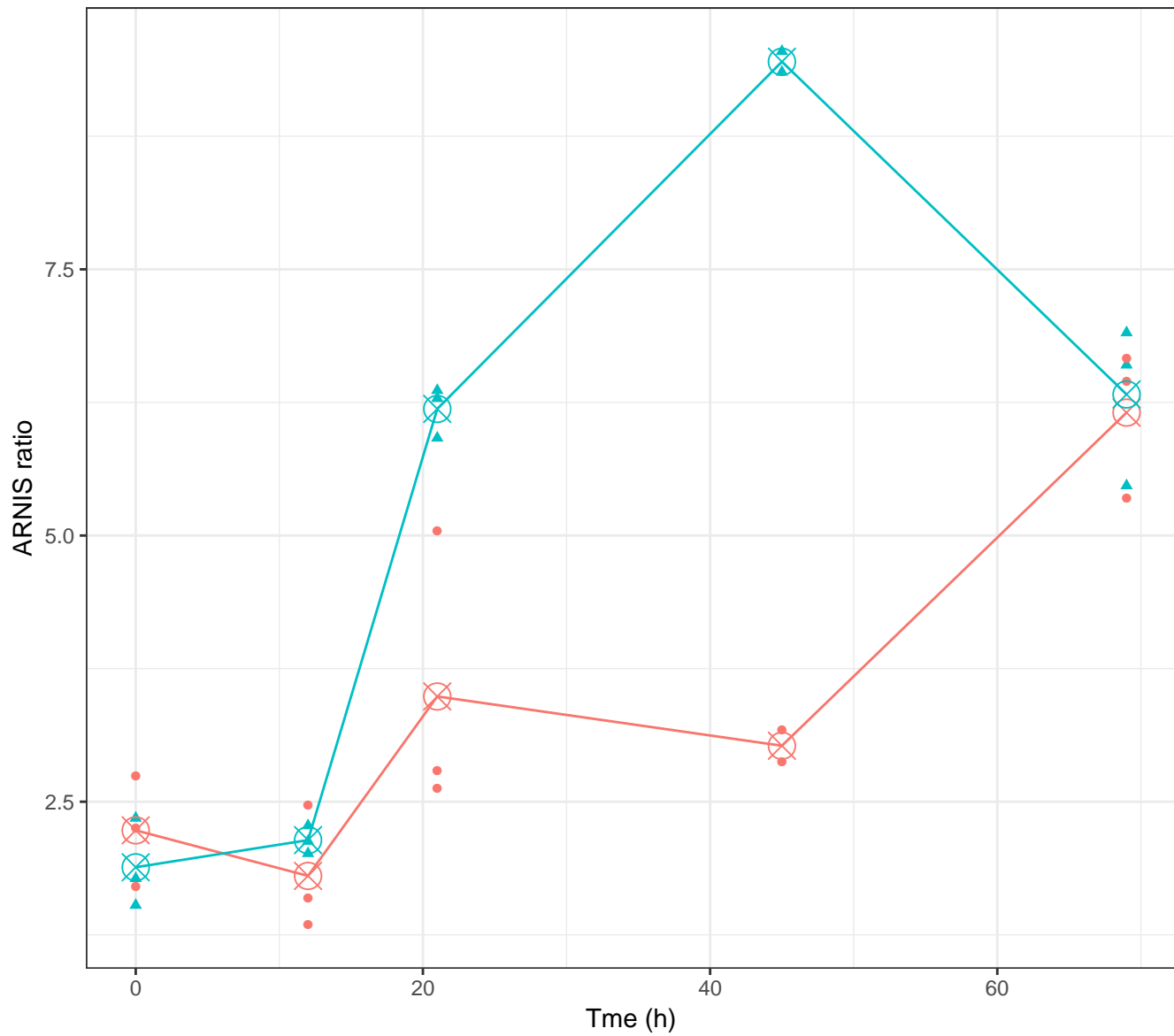
Supplementary Figure 1. Dynamics of specific bacterial lineages determined with the ARNIS ratio in the control treatment (red colour) and bacterivore-free (Filtered–1micron) treatment (blue colour). Circles and triangles show values in replicates of the control and bacterivore-free treatments, respectively. Lines connect average values (crossed circles) from the treatments.

OTU.3_Actinobacteria_clade_acl_B1



Treatment  Control  Filtered-1micron

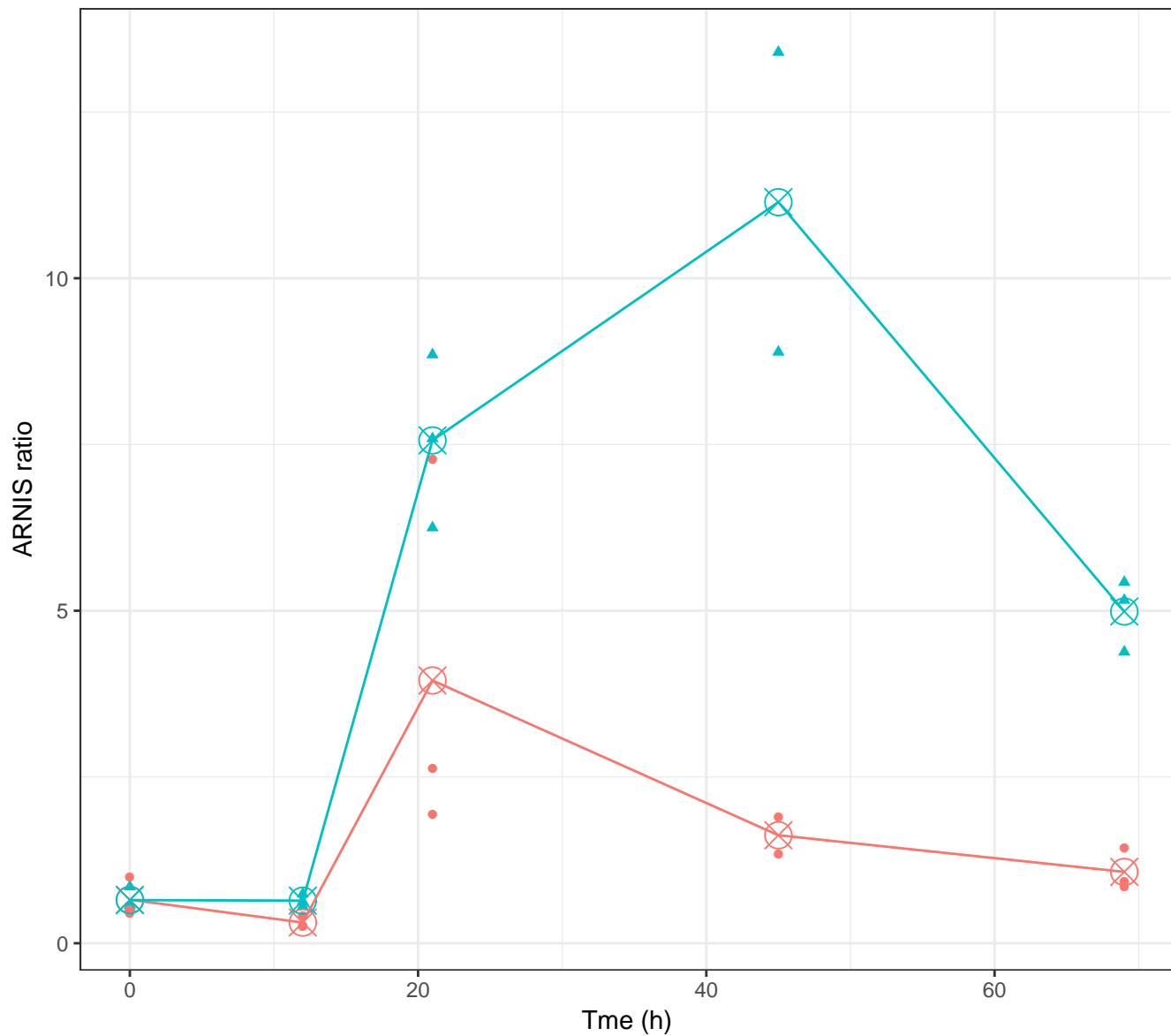
OTU.12_Verrucomicrobia_FukuN18_freshwater_group

Treatment ⊗ Control ⊗ Filtered-1micron





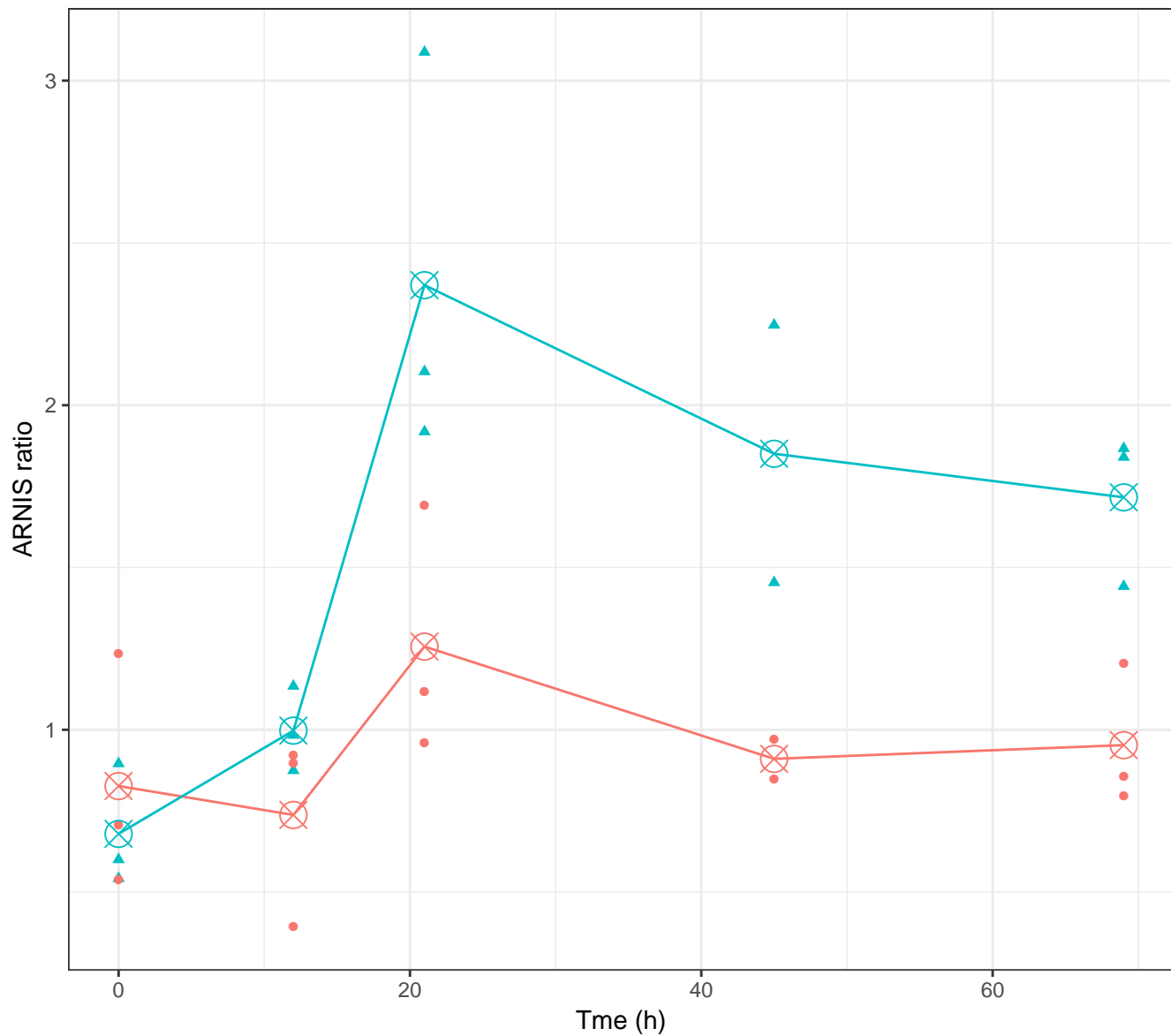
OTU.24_Bacteroidetes_Leadbetterella

Treatment  Control  Filtered-1micron





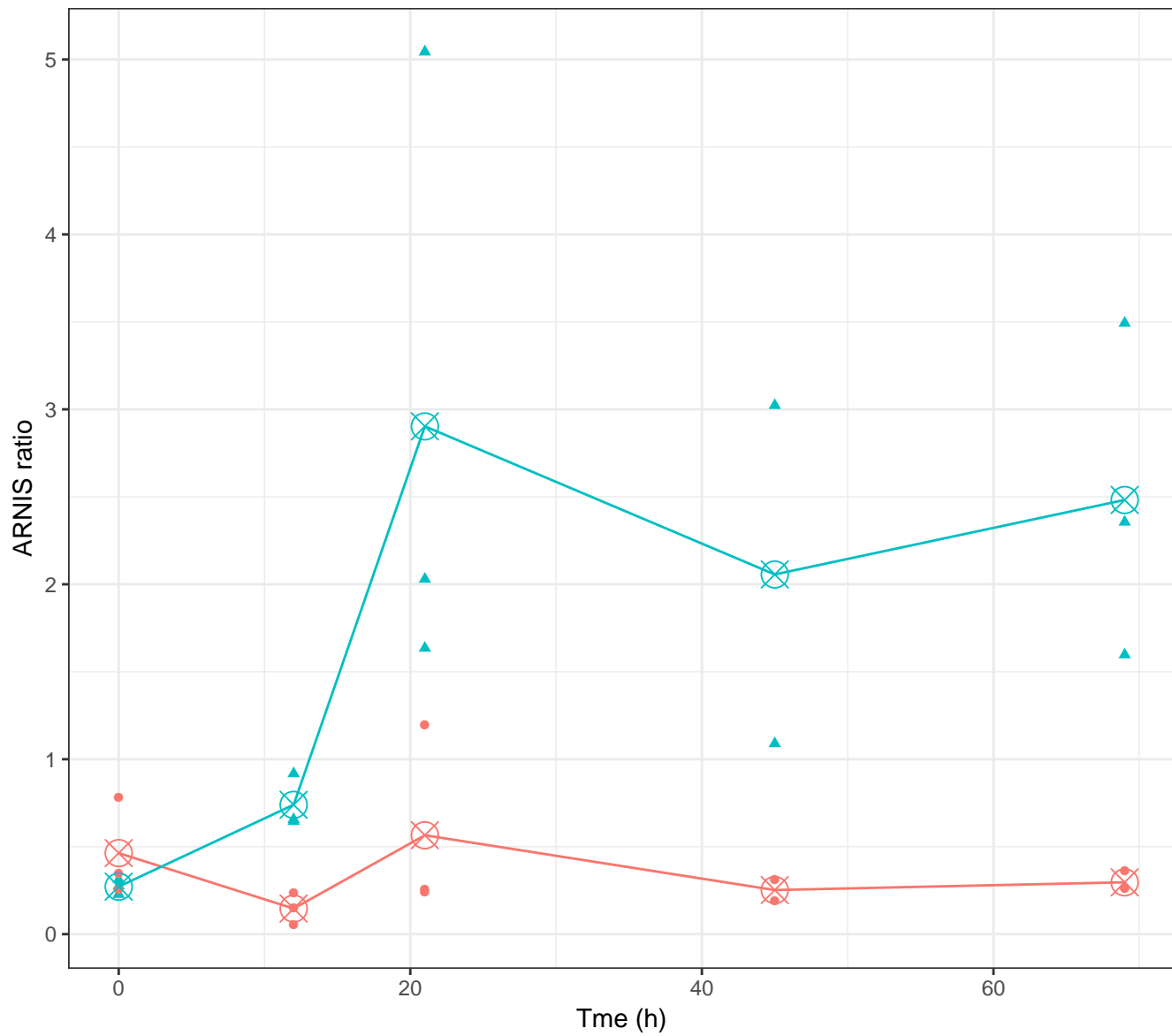
OTU.1_Actinobacteria_clade_acl_A6

Treatment  Control  Filtered-1micron



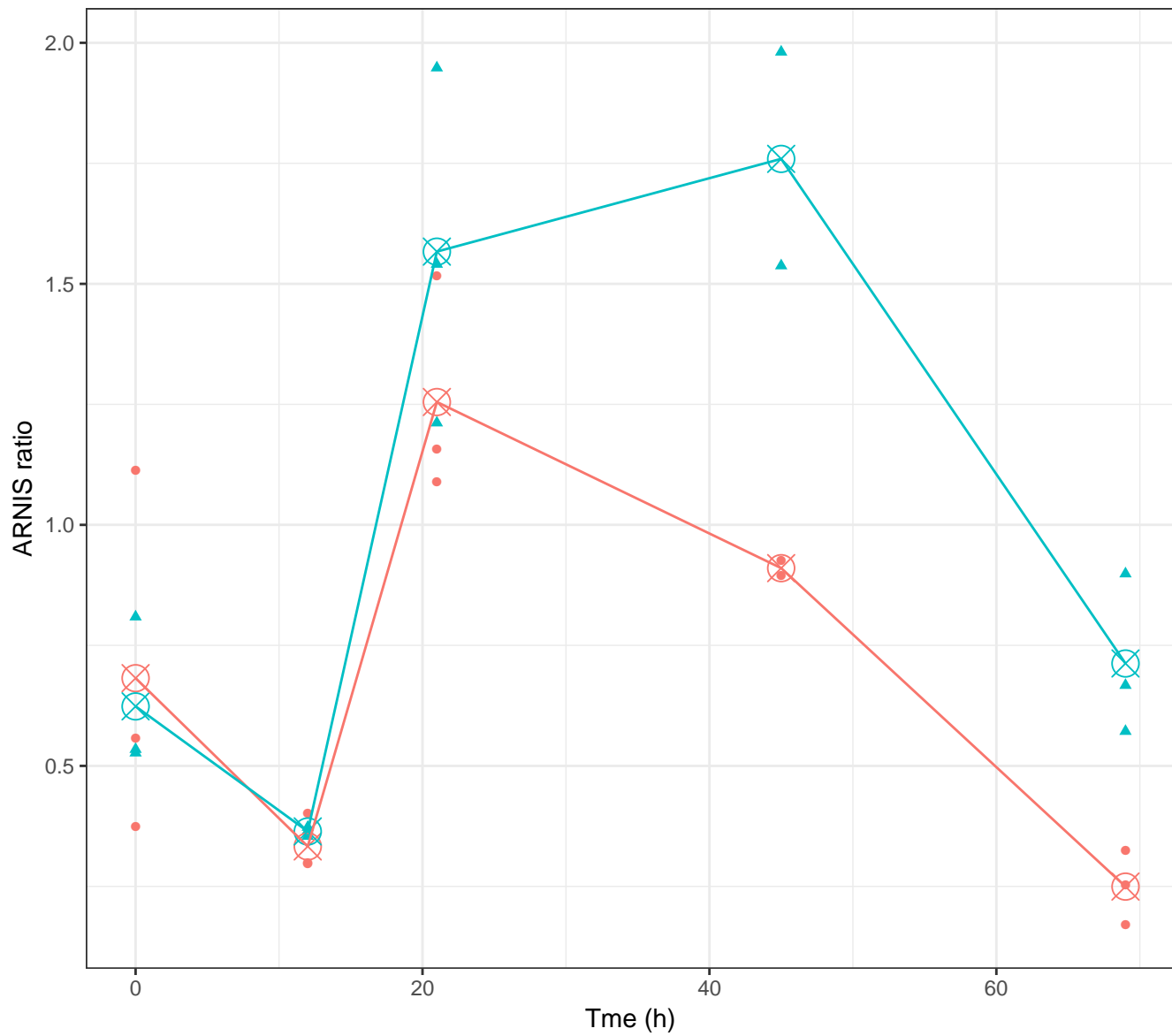
OTU.18_Betaproteobacteria_Limnohabitans

Treatment  Control  Filtered-1micron





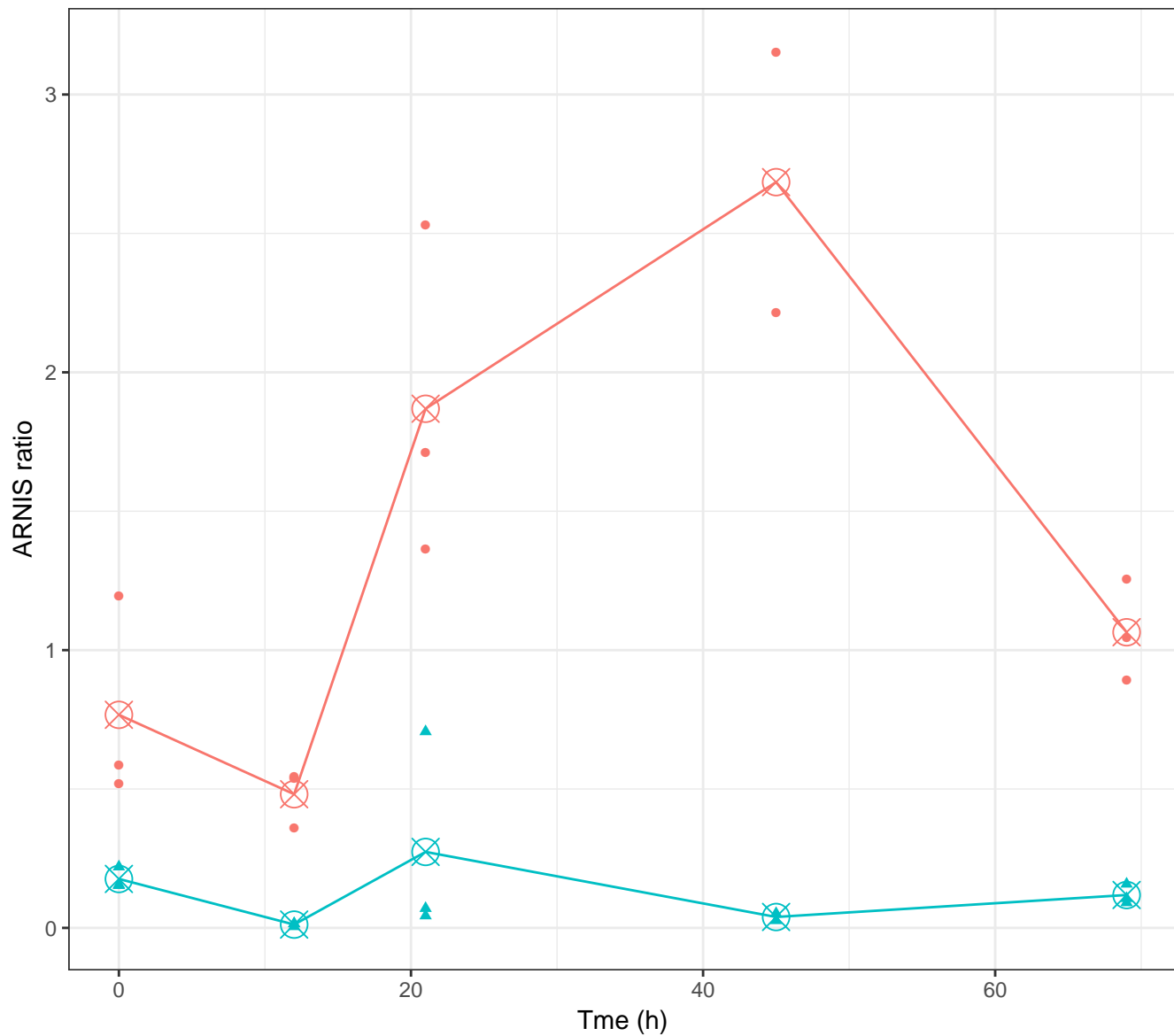
OTU.25_Betaproteobacteria_Methylopumilus_planktonicus_LD28

Treatment Control Filtered-1micron



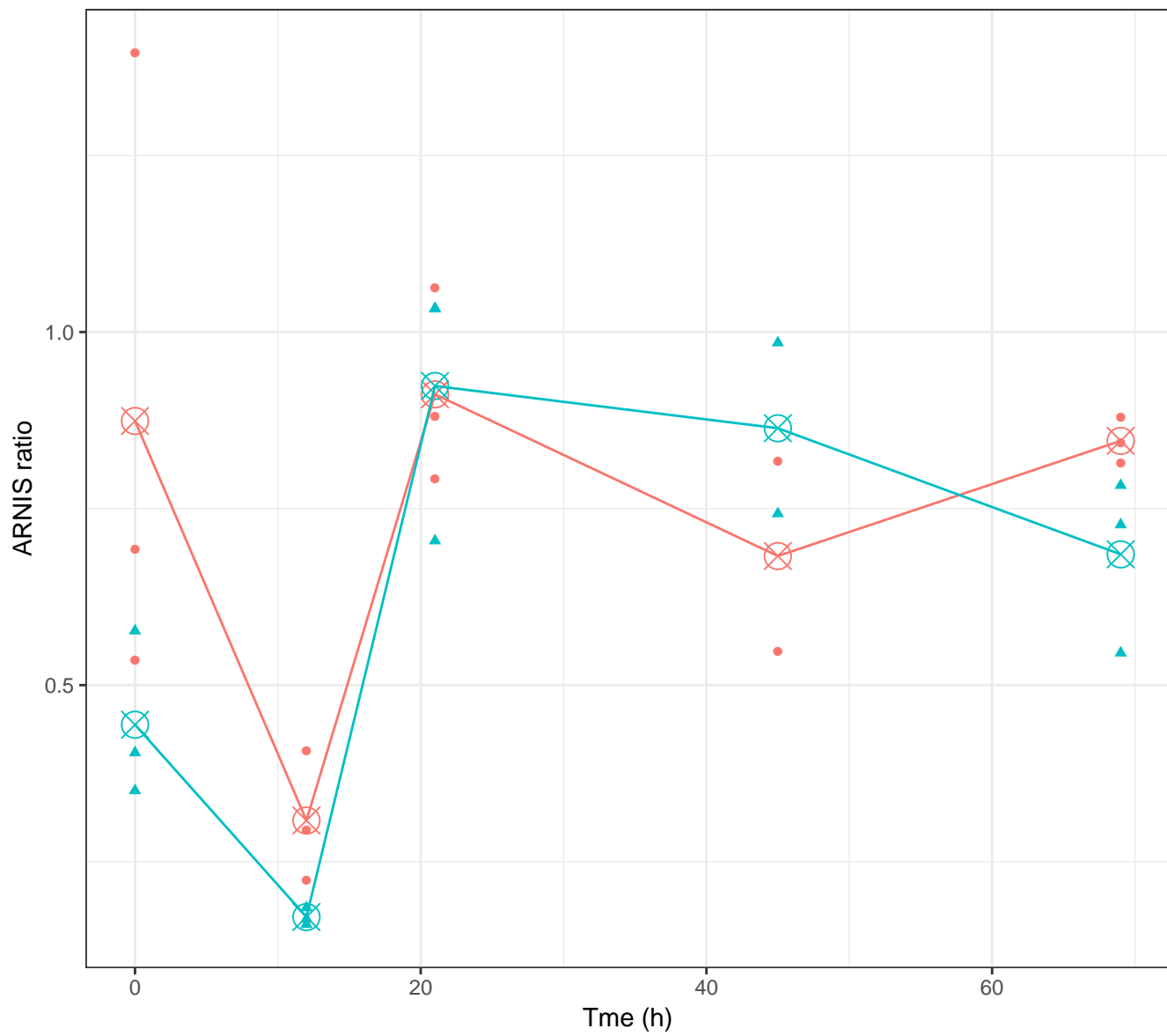
OTU.60_Bacteroidetes_Candidatus_Aquirestis

Treatment  Control  Filtered-1micron



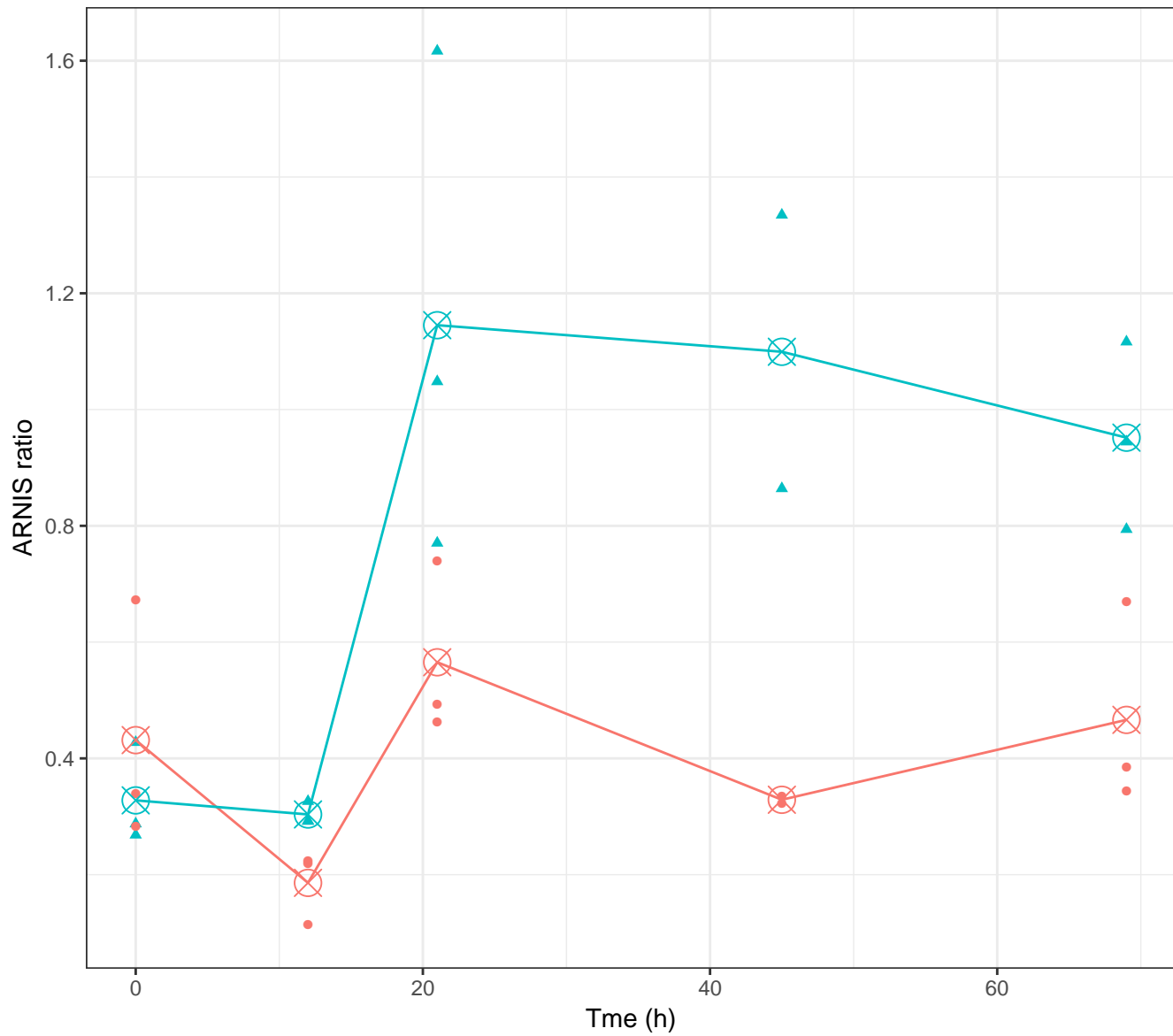


OTU.38_Verrucomicrobia_Prostheco bacter

Treatment Control Filtered-1micron

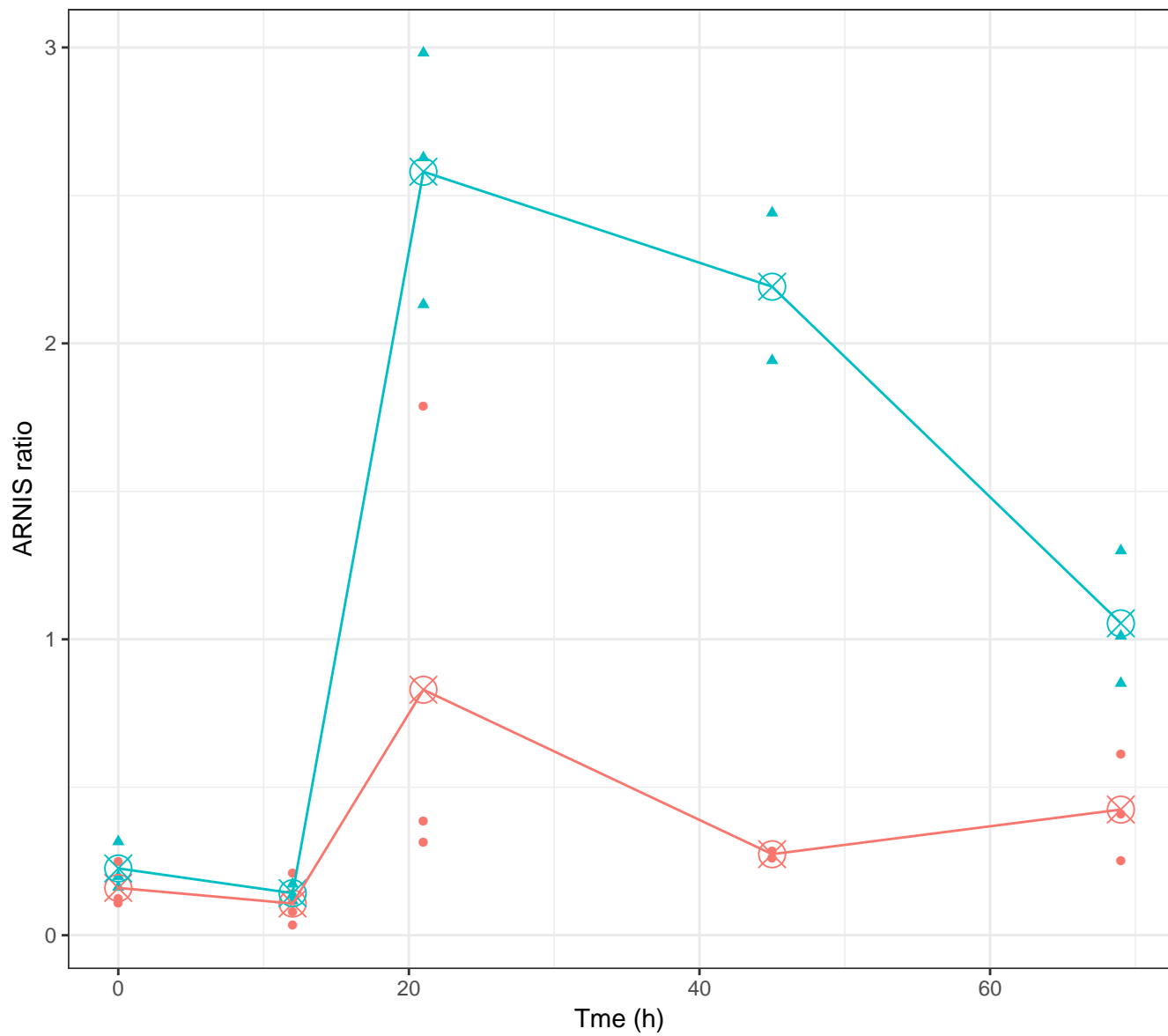


OTU.5065_Actinobacteria_Candidatus_Planktophila

Treatment  Control  Filtered-1micron

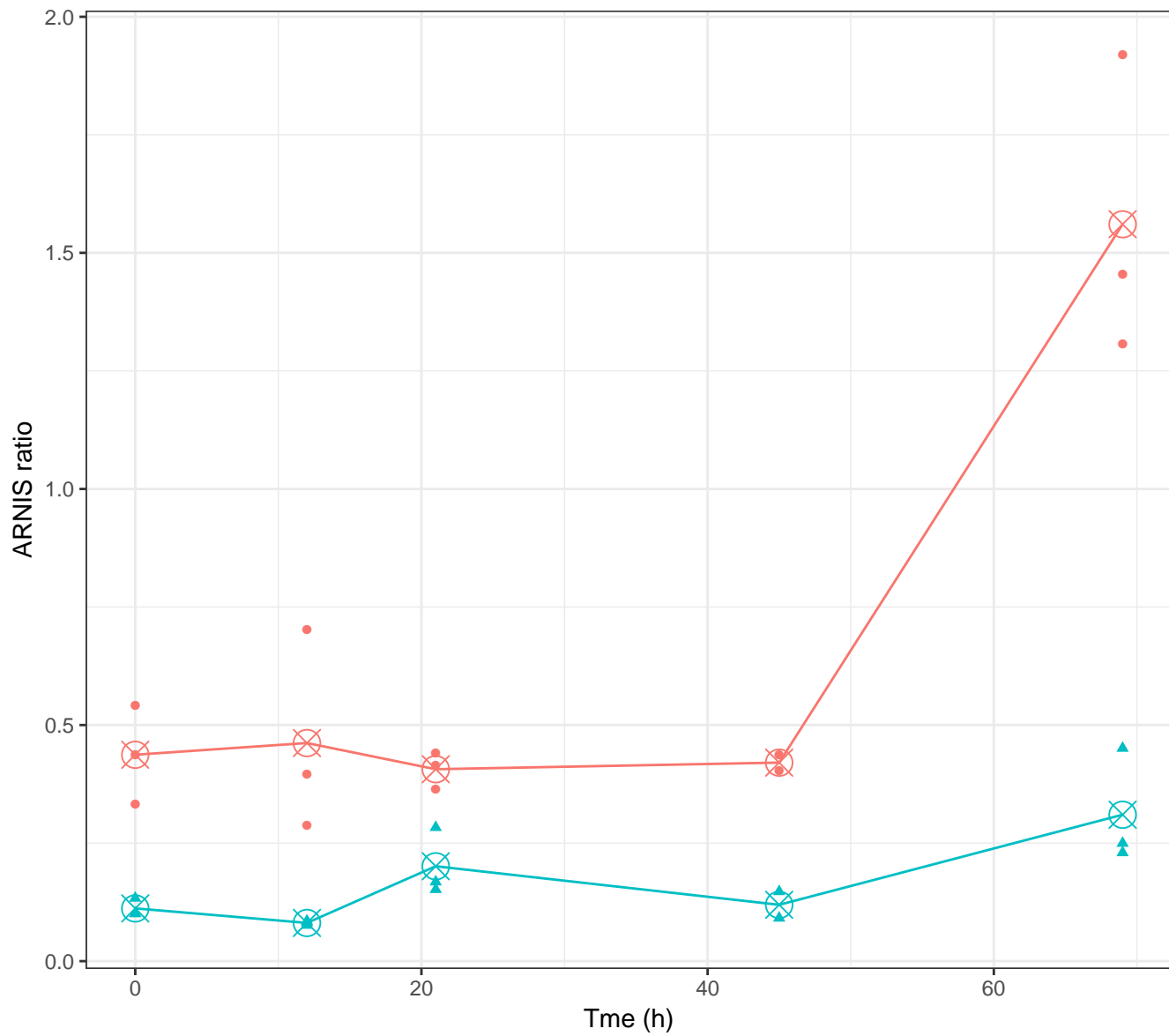
OTU.42_Bacteroidetes_Fluviicola

Treatment Control Filtered-1micron



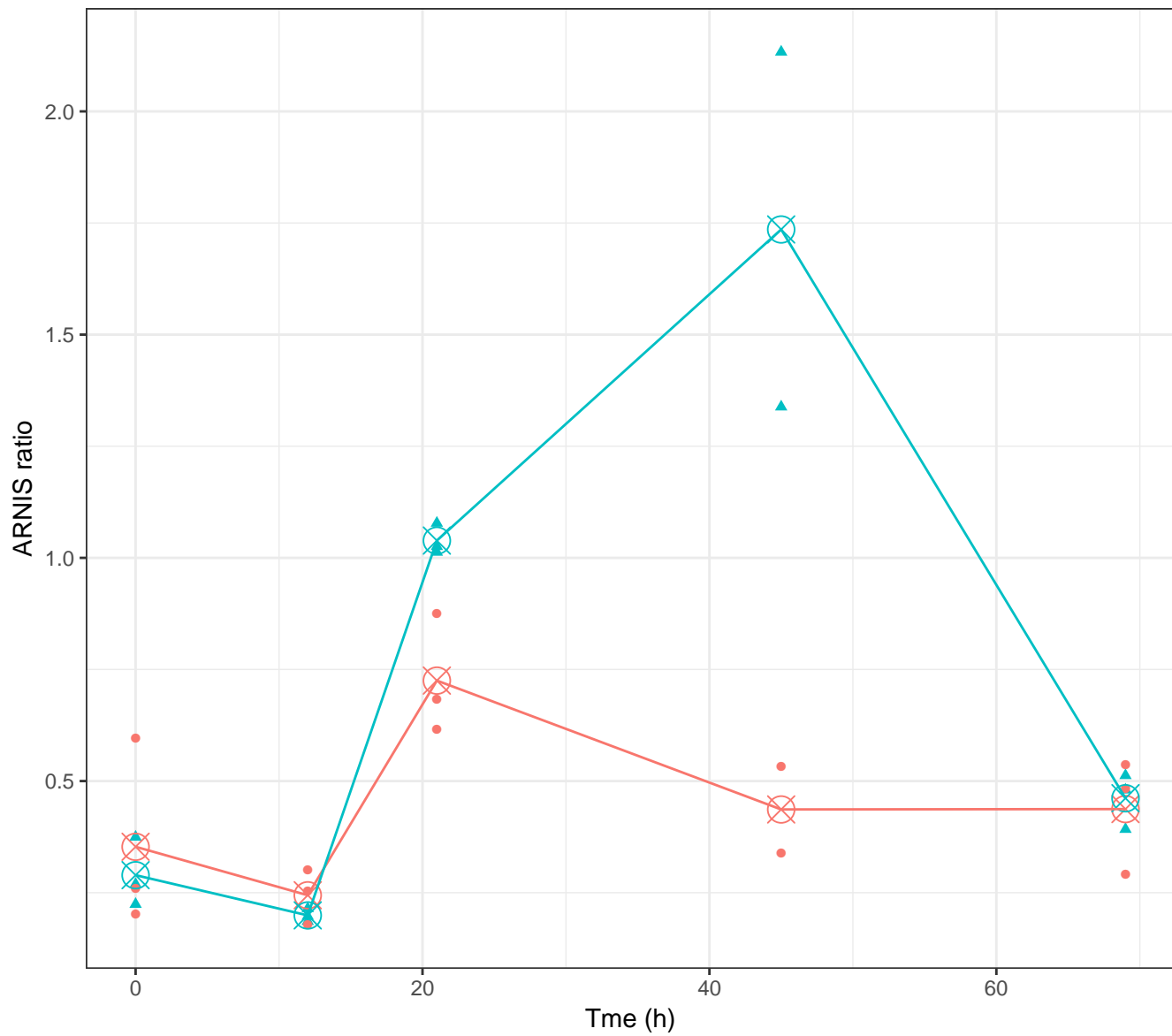
OTU.44_Betaproteobacteria_Nitrosomonadaceae

Treatment Control Filtered-1micron





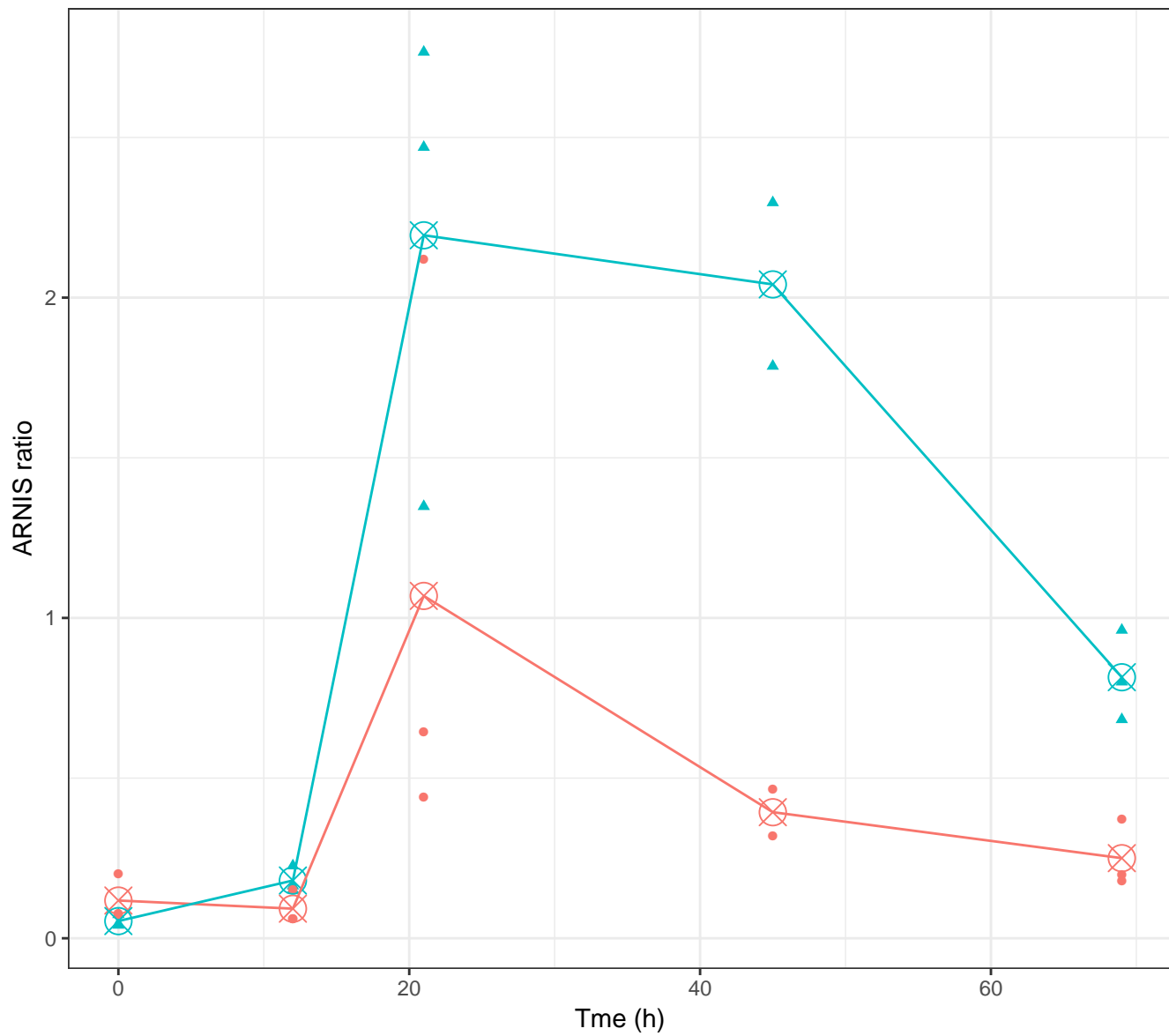
OTU.244_Betaproteobacteria_Polynucleobacter

Treatment Control Filtered-1micron



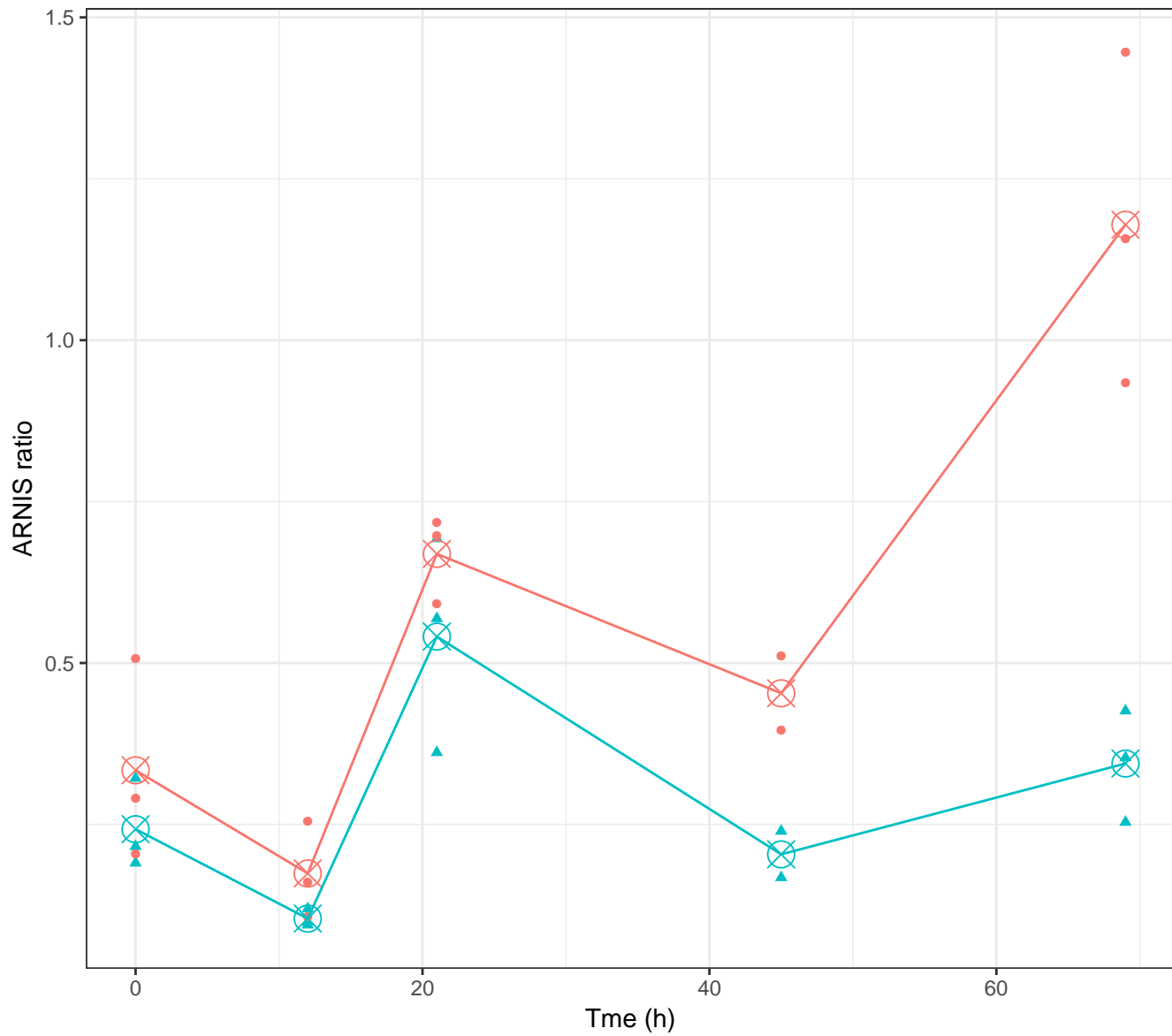


OTU.48_Bacteroidetes_Flavobacterium

Treatment  Control  Filtered-1micron

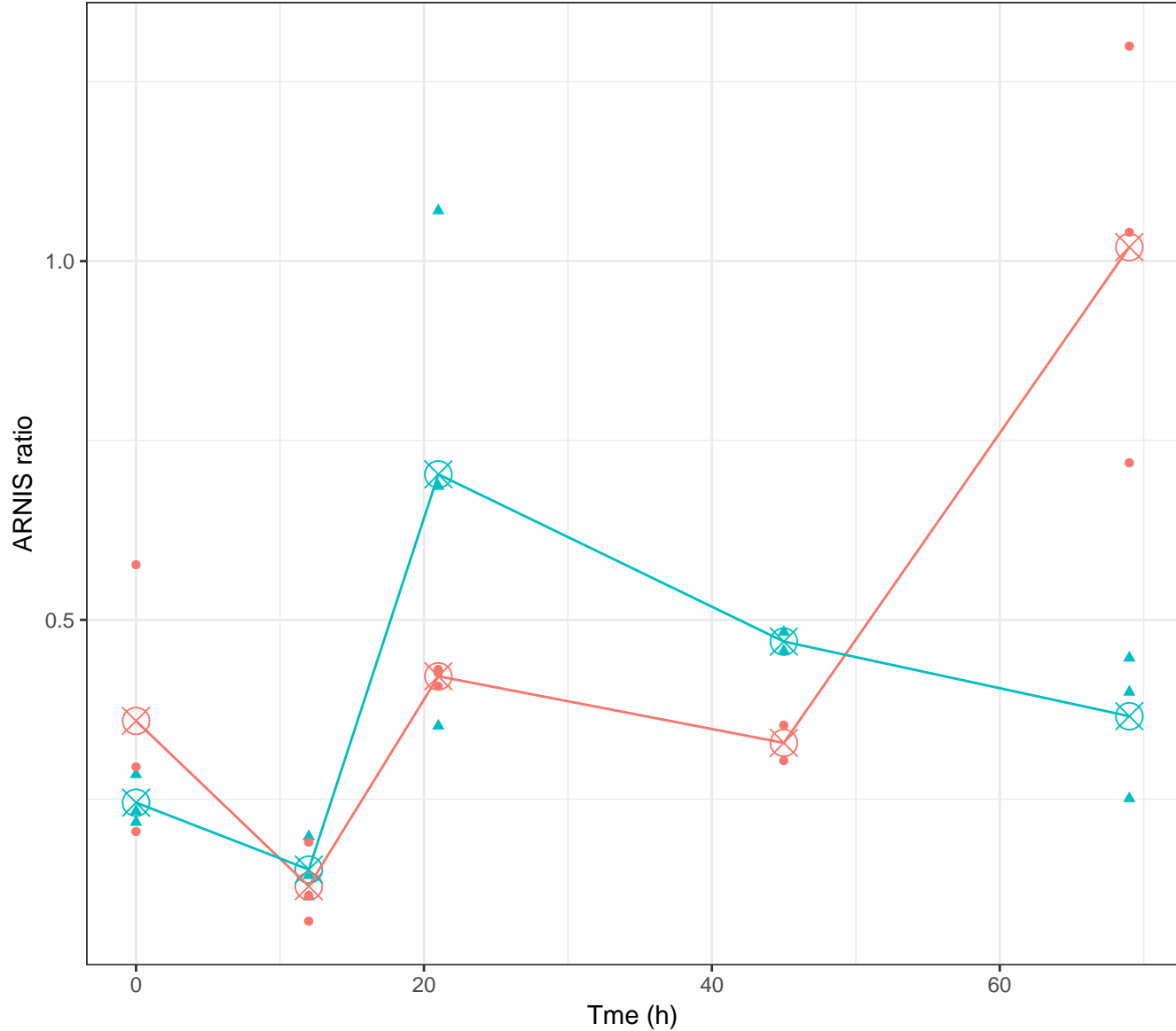


OTU.51_Verrucomicrobia_FukuN18_freshwater_group



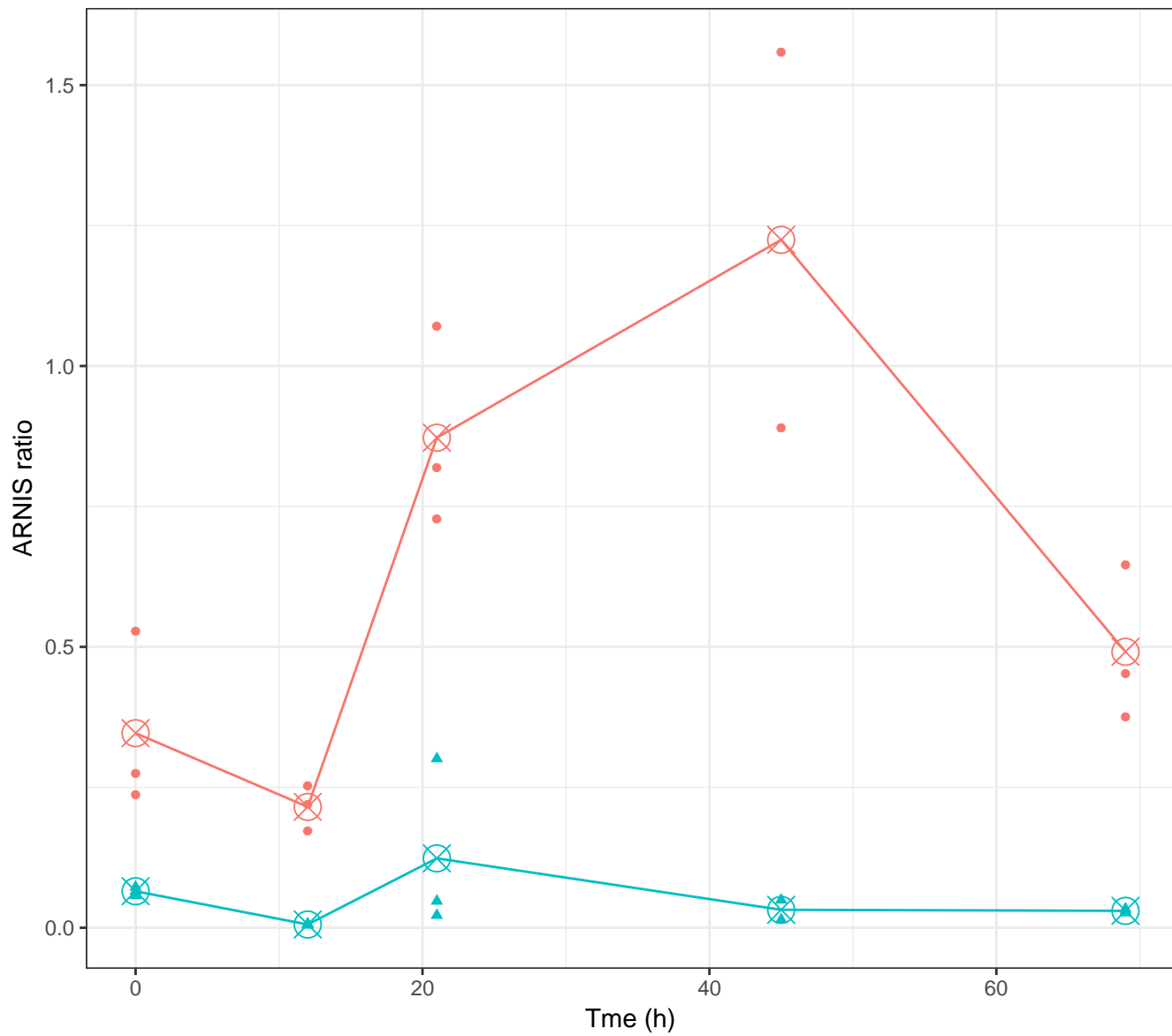
Treatment  Control  Filtered-1micron

OTU.10_Betaproteobacteria_Polynucleobacter

Treatment Control Filtered-1micron

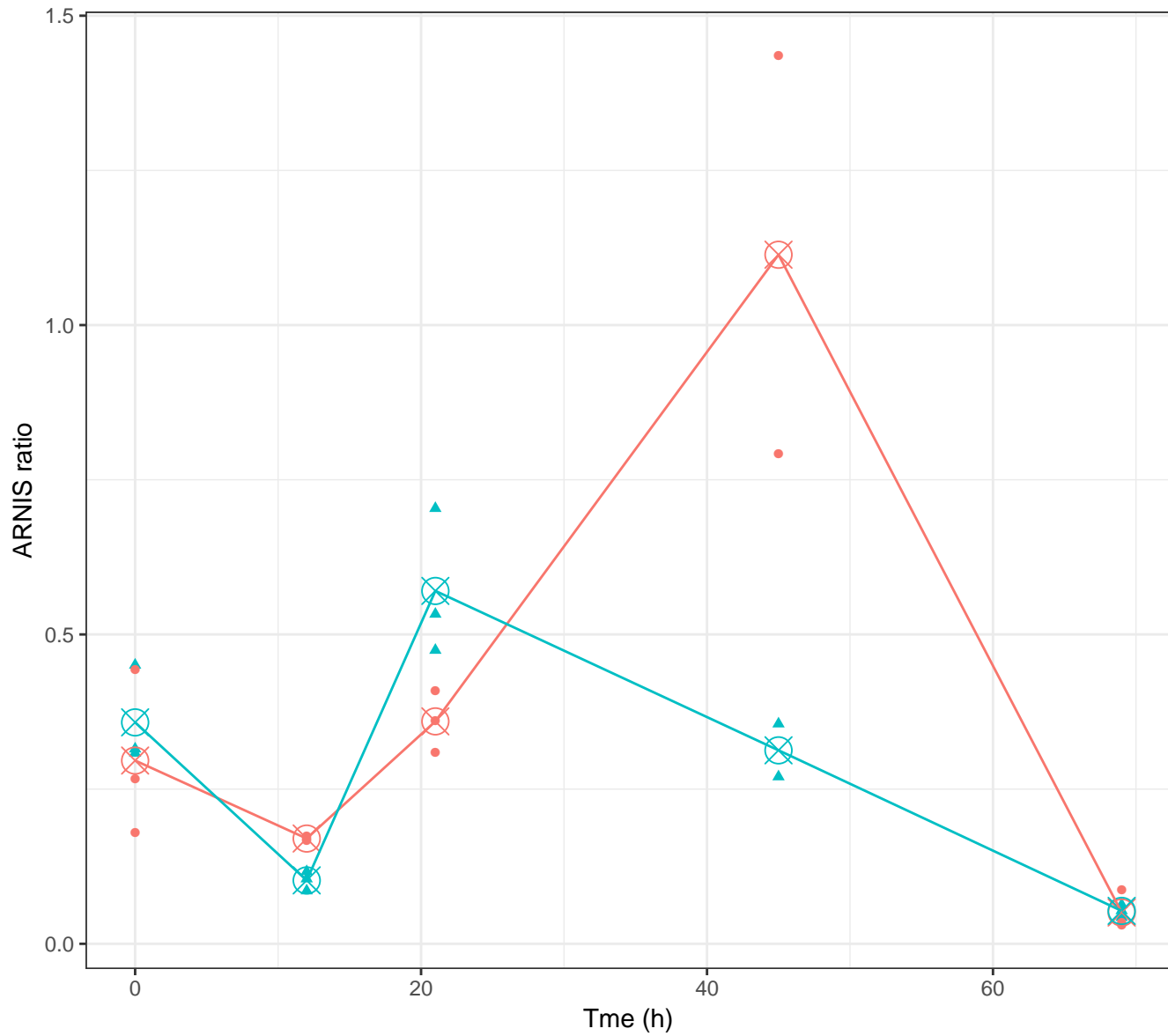


OTU.62_Bacteroidetes_Saprospiraceae

Treatment  Control  Filtered-1micron

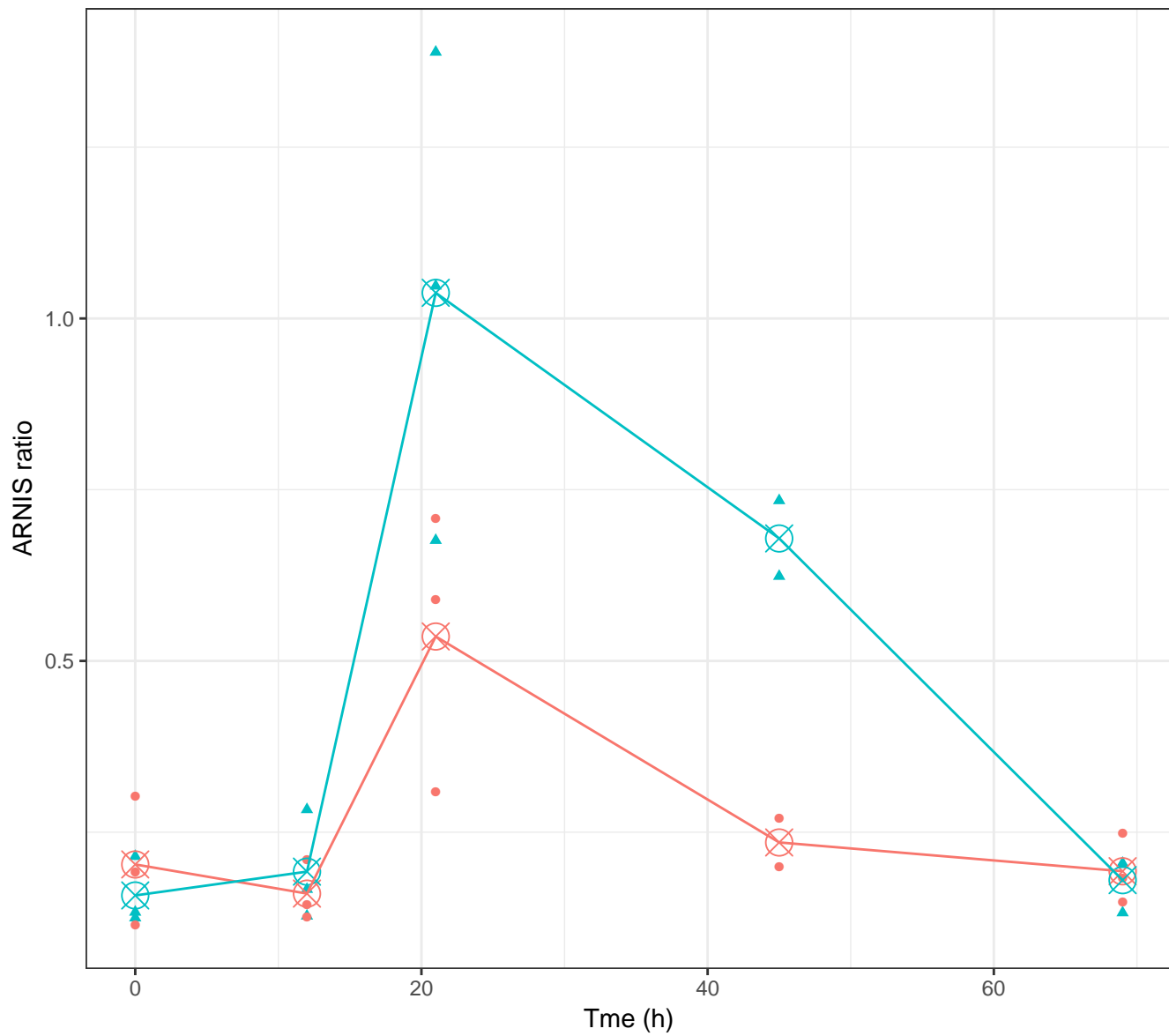
OTU.65_Planctomyces_Planctomycetaceae

Treatment Control Filtered-1micron



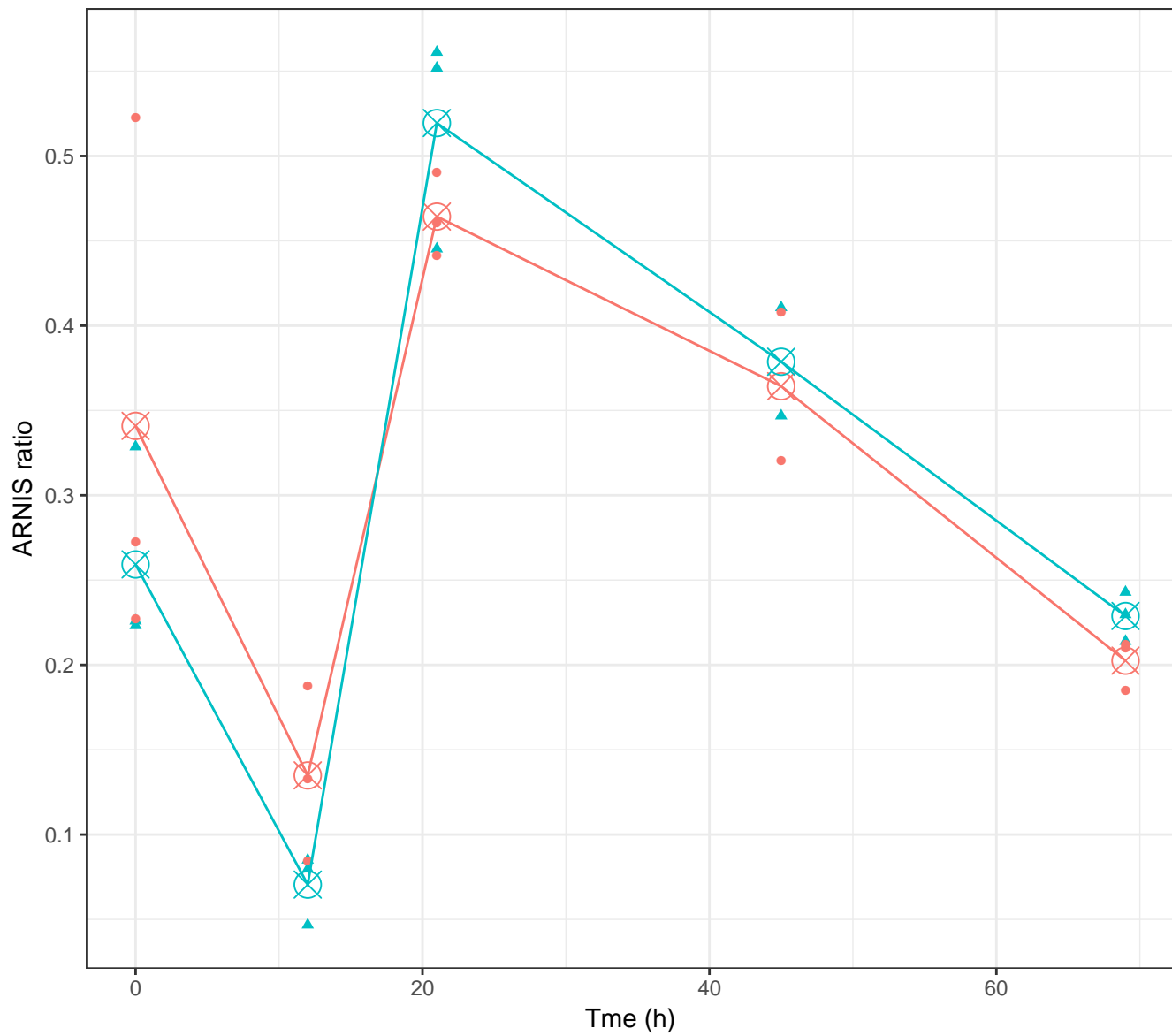
OTU.15_Actinobacteria_clade_acSTL

Treatment Control Filtered-1micron



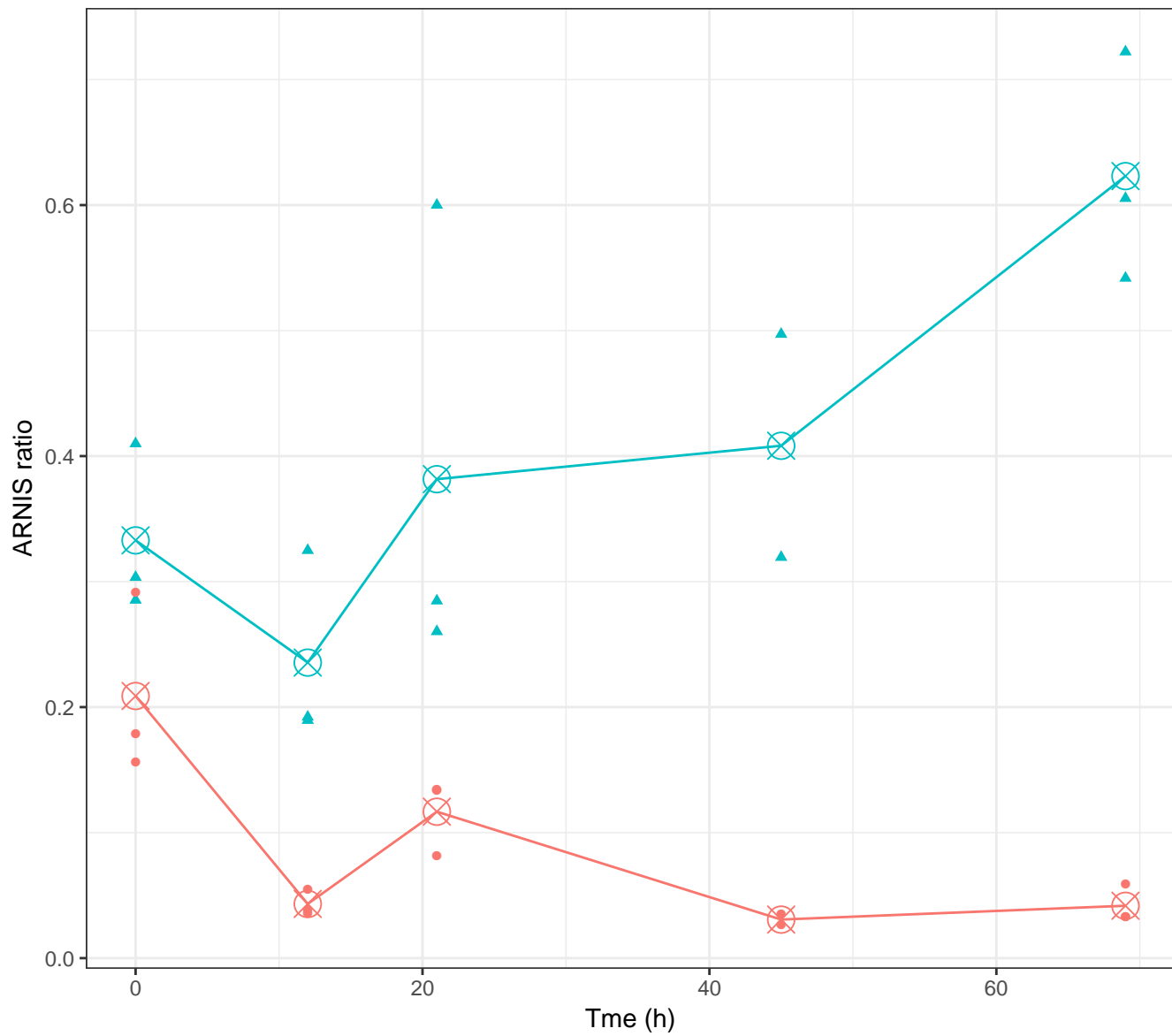


OTU.37_Bacteroidetes_Algoriphagus



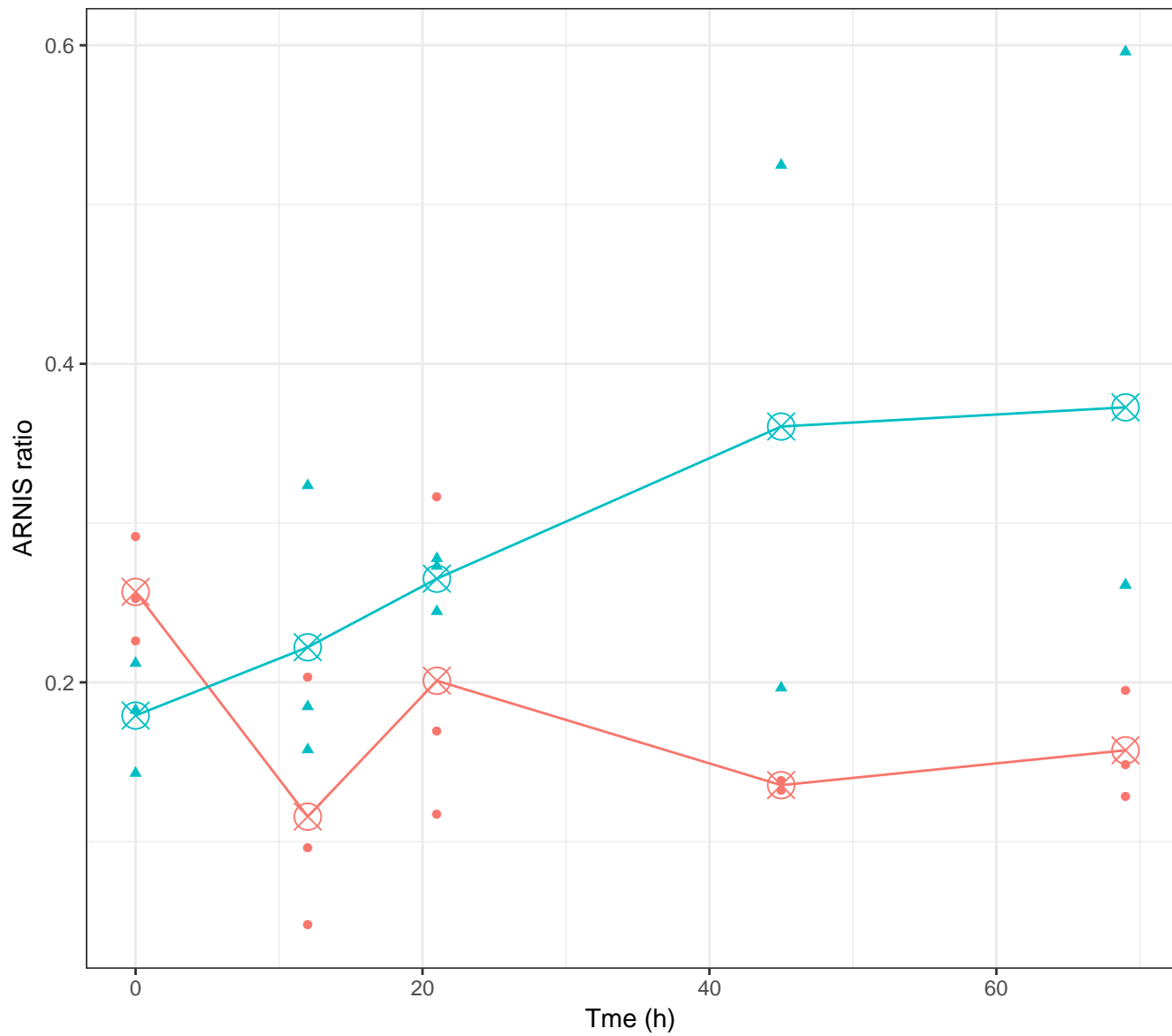
Treatment ⊗ Control ⊗ Filtered-1micron



OTU.28_Verrucomicrobia_Opitutae_vadinHA64

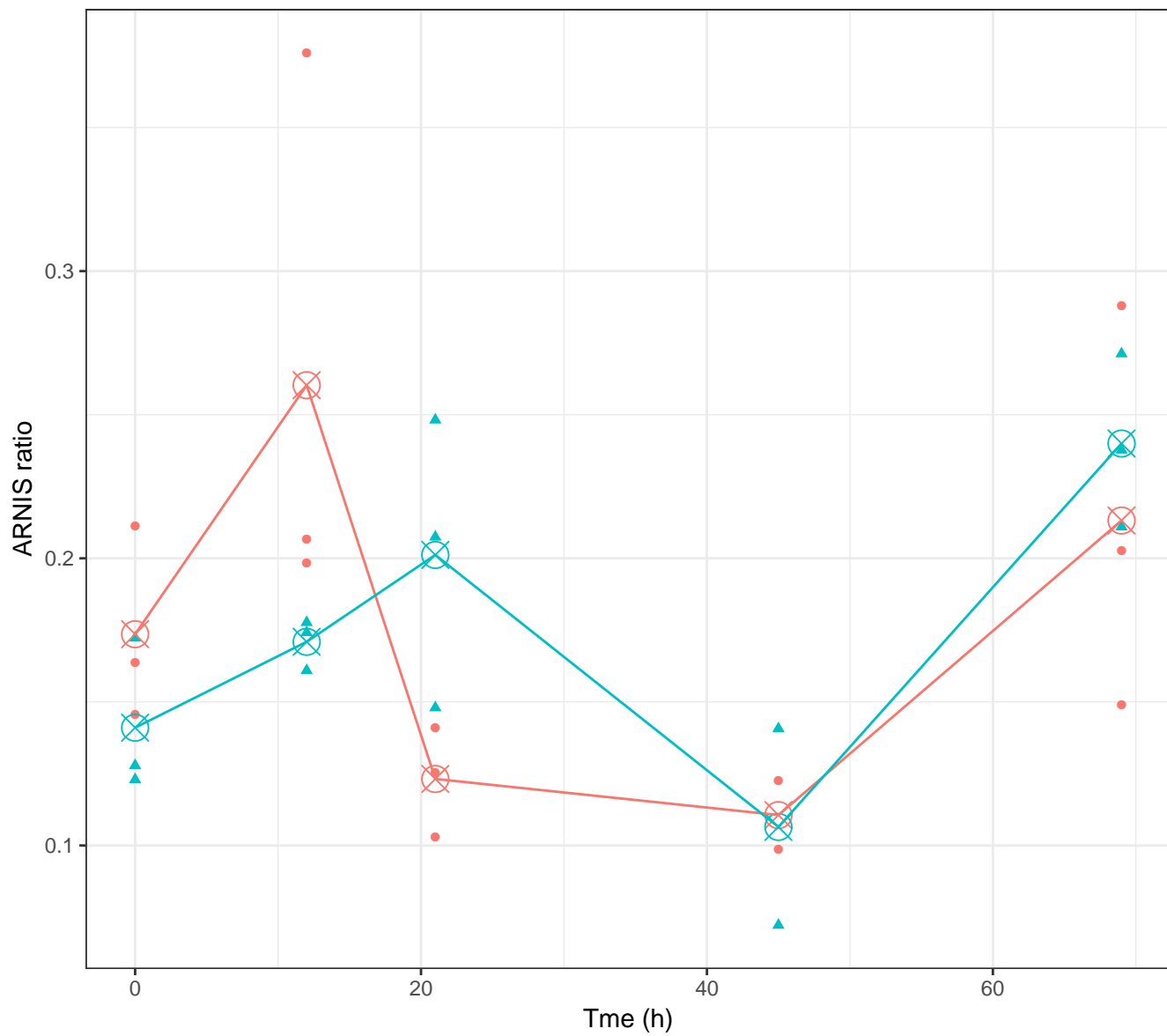
Treatment  Control  Filtered-1micron

OTU.383_Betaproteobacteria_Albidiferax_3

Treatment  Control  Filtered-1micron

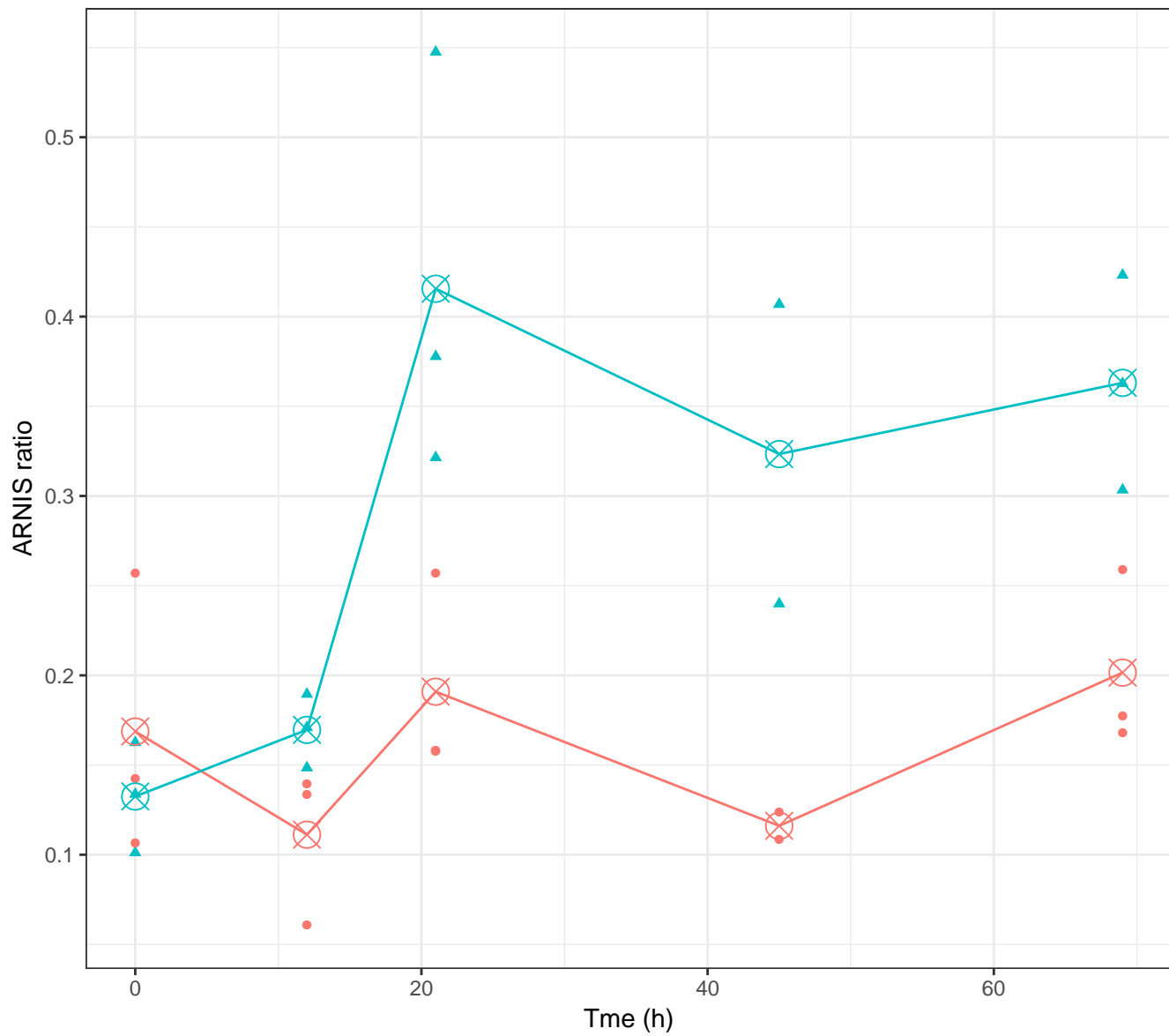
OTU.5_Actinobacteria_Illumatobacter

Treatment Control Filtered-1micron



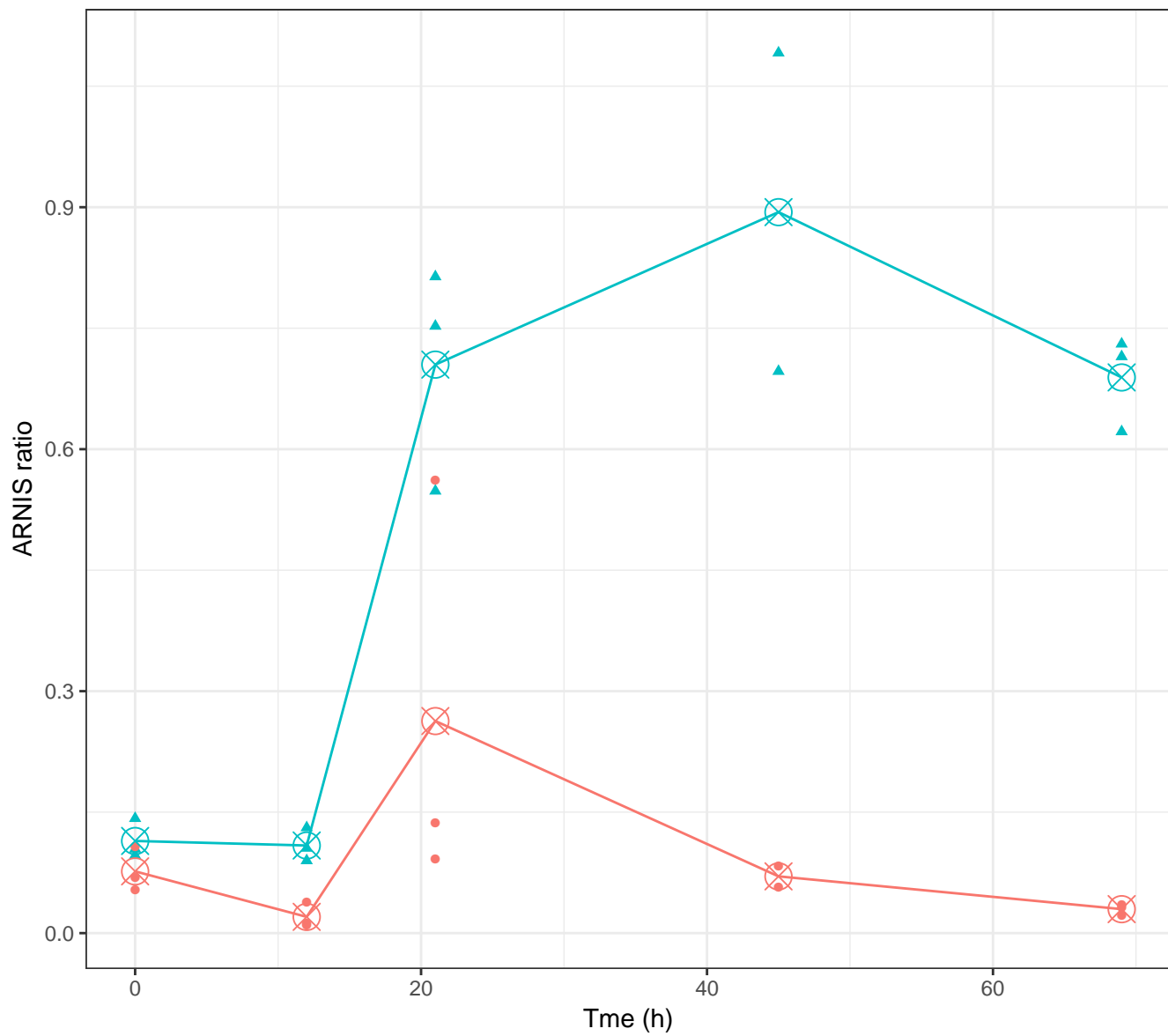
OTU.16_Actinobacteria_clade_acl_A1

Treatment Control Filtered-1micron



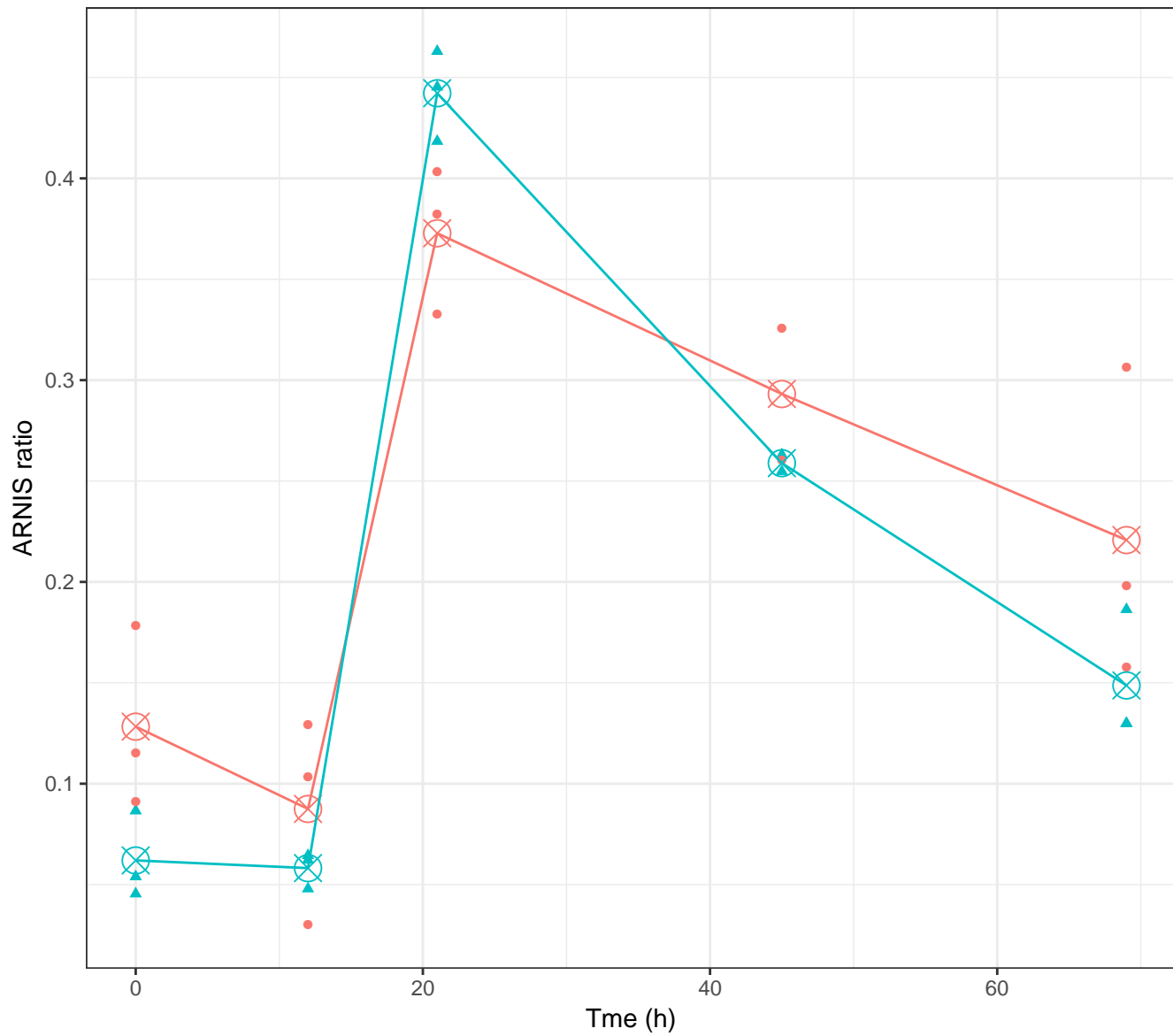
OTU.17_Bacteroidetes_Fluviicola

Treatment Control Filtered-1micron



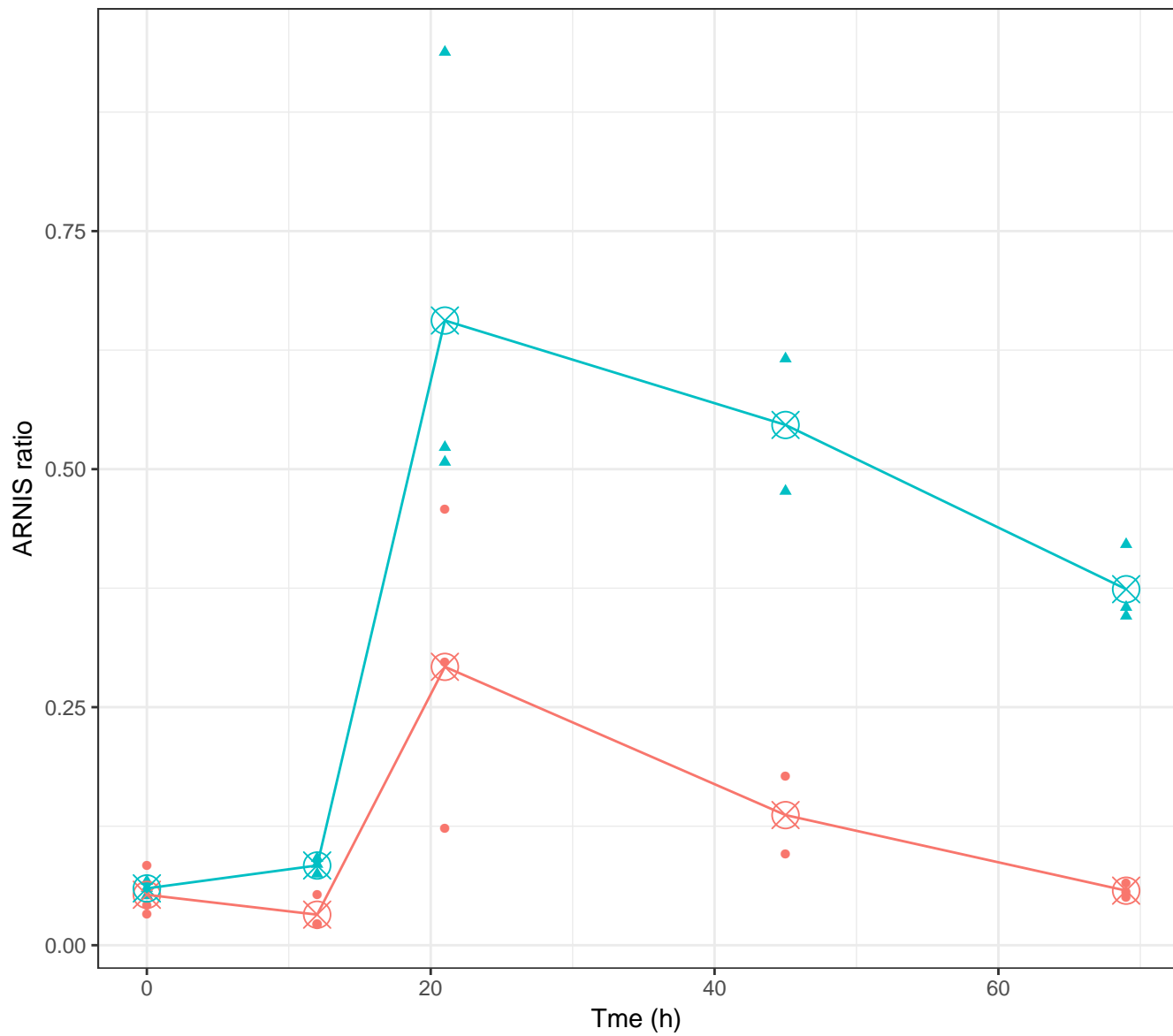
OTU.14_Bacteroidetes_NS9_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron



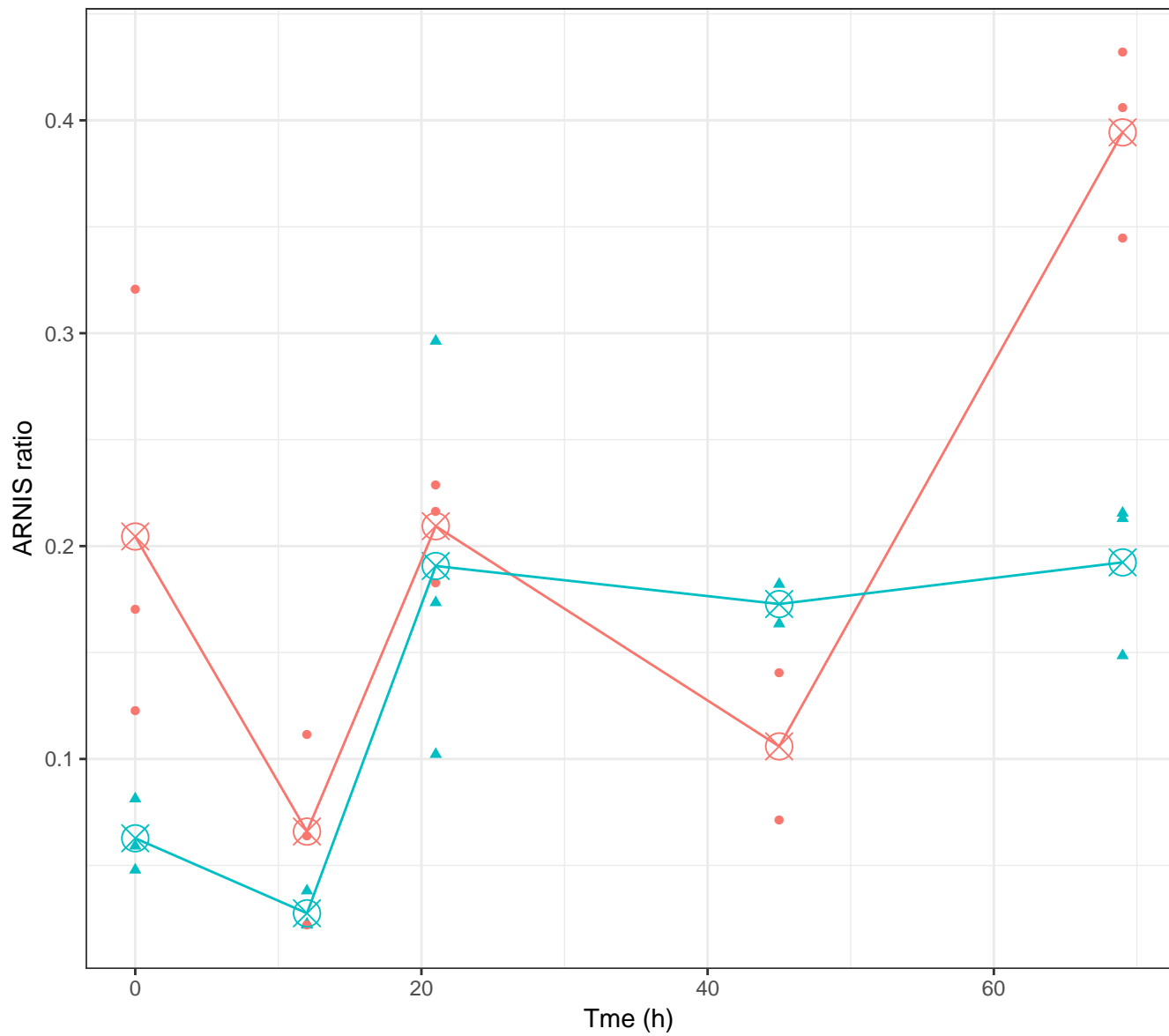
OTU.85_Bacteroidetes_NS11_12_marine_group

Treatment Control Filtered-1micron



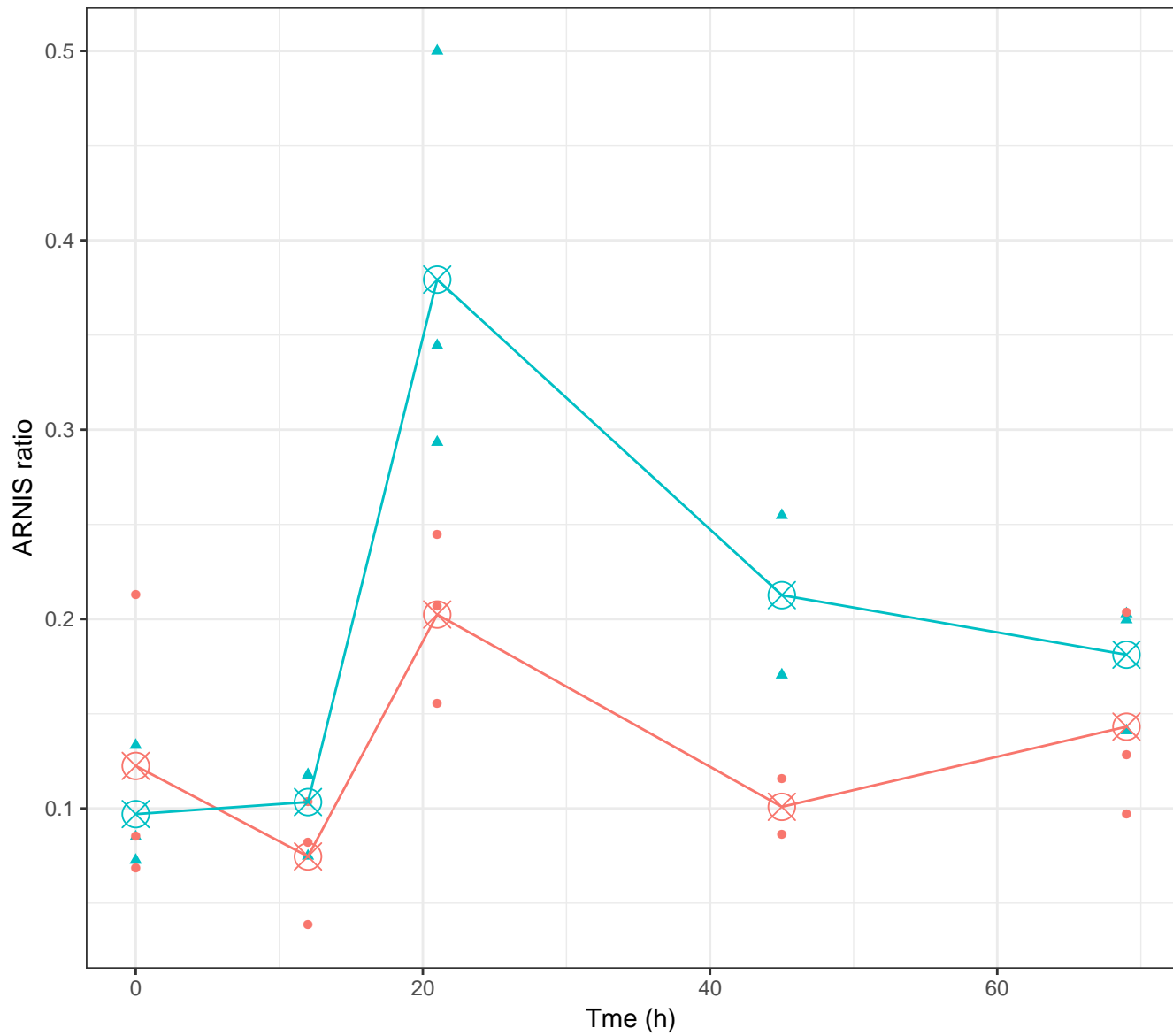
OTU.87_Verrucomicrobia_Prostheco bacter

Treatment Control Filtered-1micron



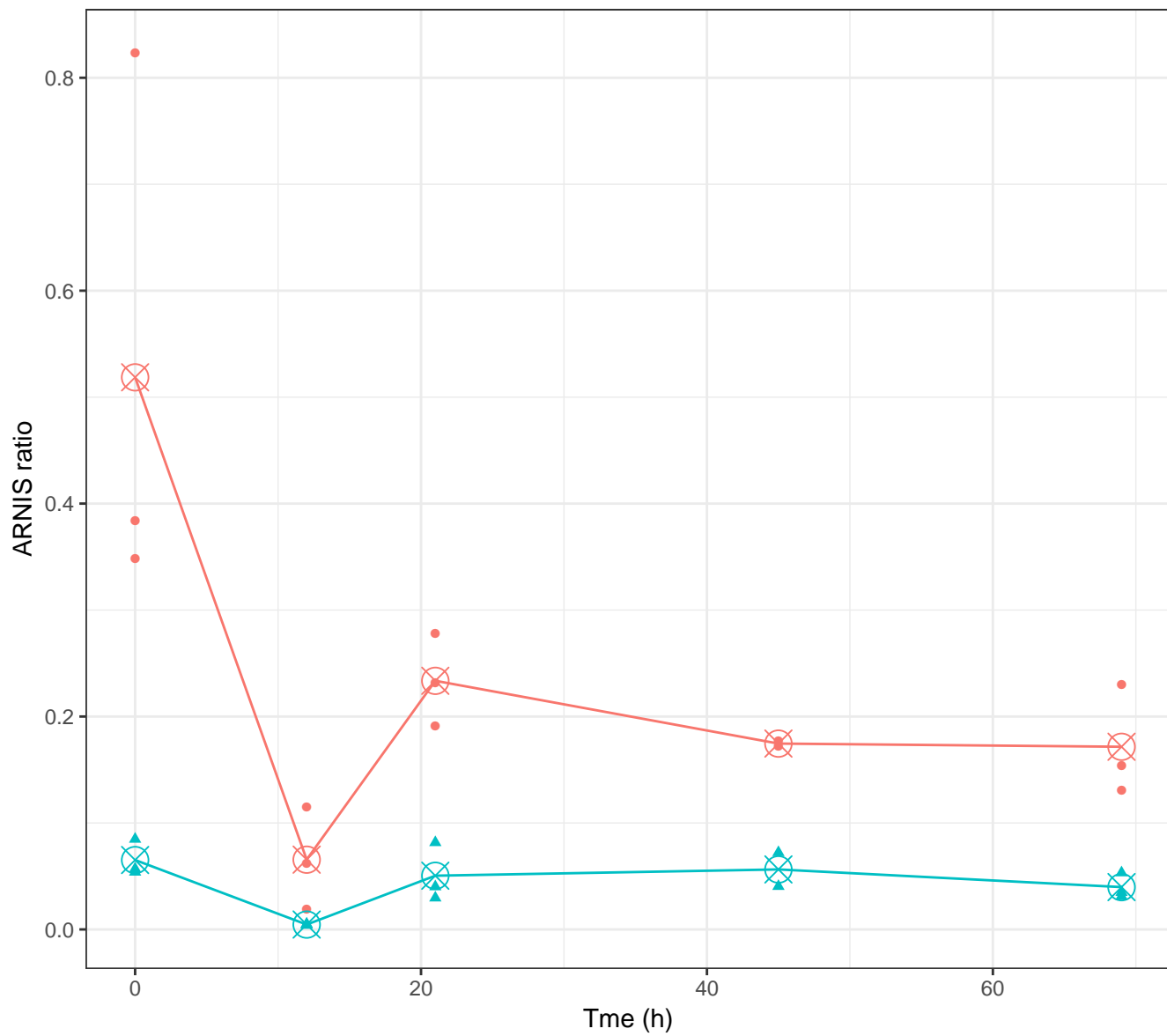
OTU.7_Actinobacteria_Candidatus_Planktophila

Treatment ⊗ Control ⊗ Filtered-1micron



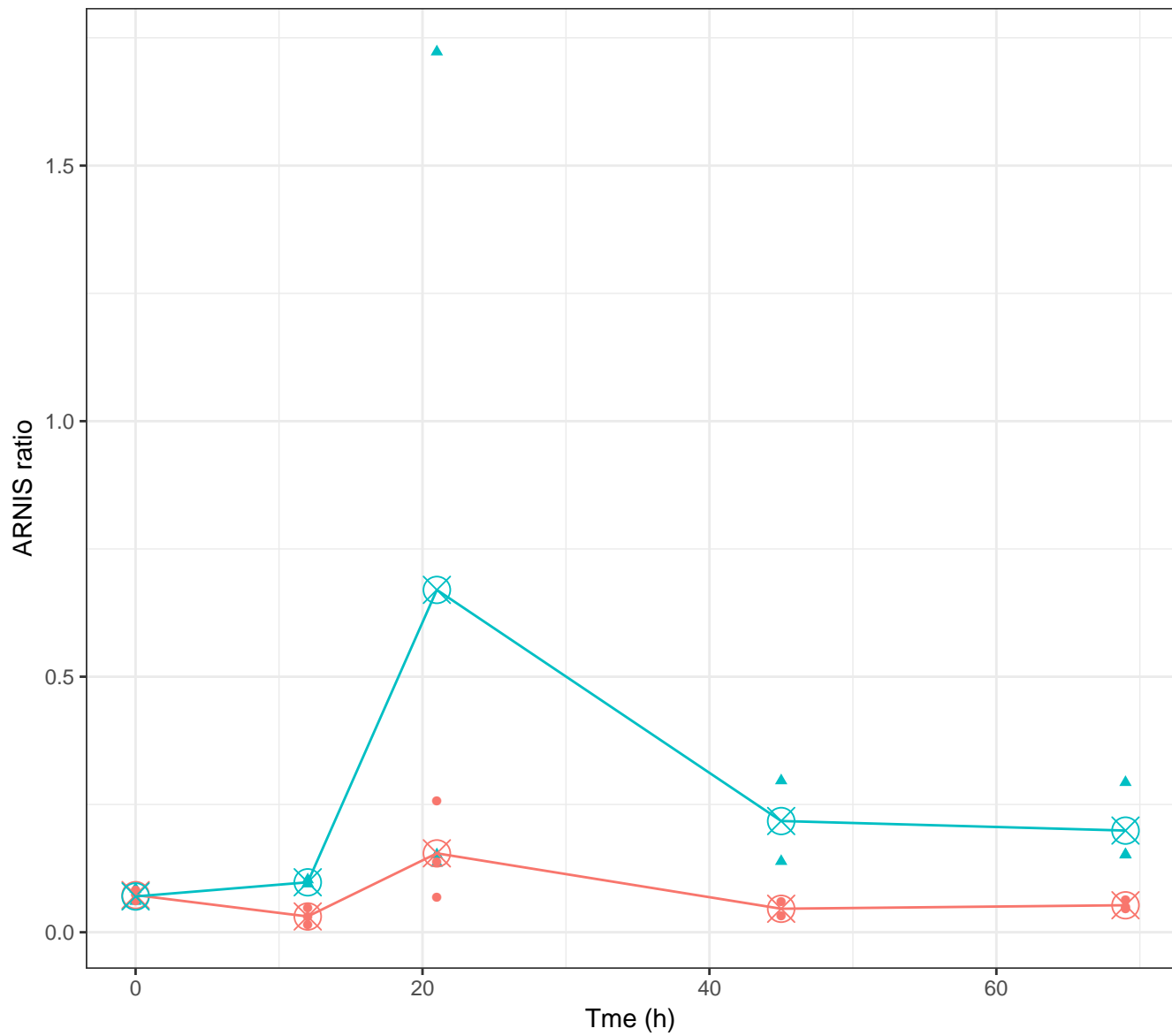
OTU.101_Verrucomicrobia_Brevifollis

Treatment Control Filtered-1micron



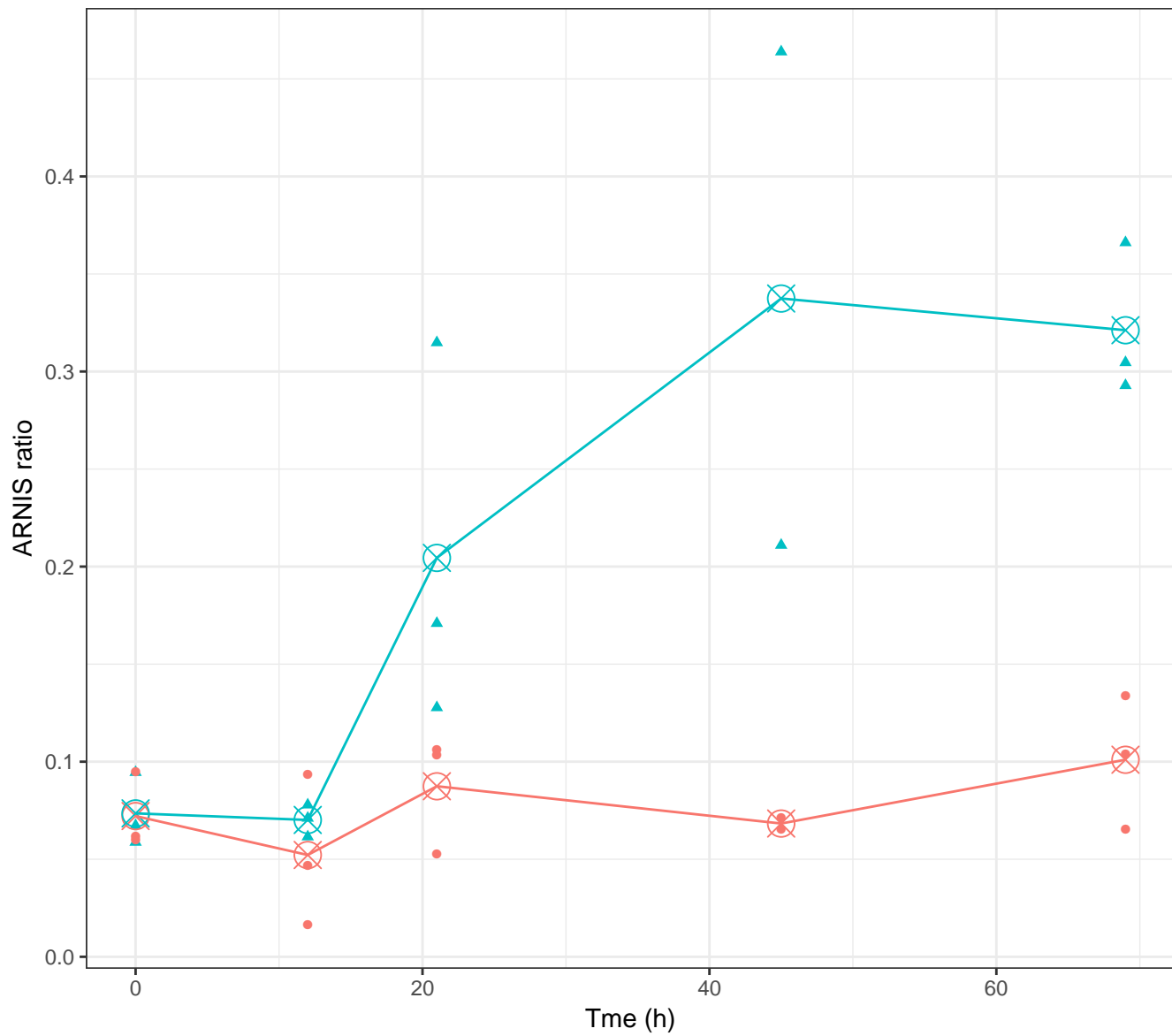


OTU.53_Betaproteobacteria_Caenimonas

Treatment Control Filtered-1micron

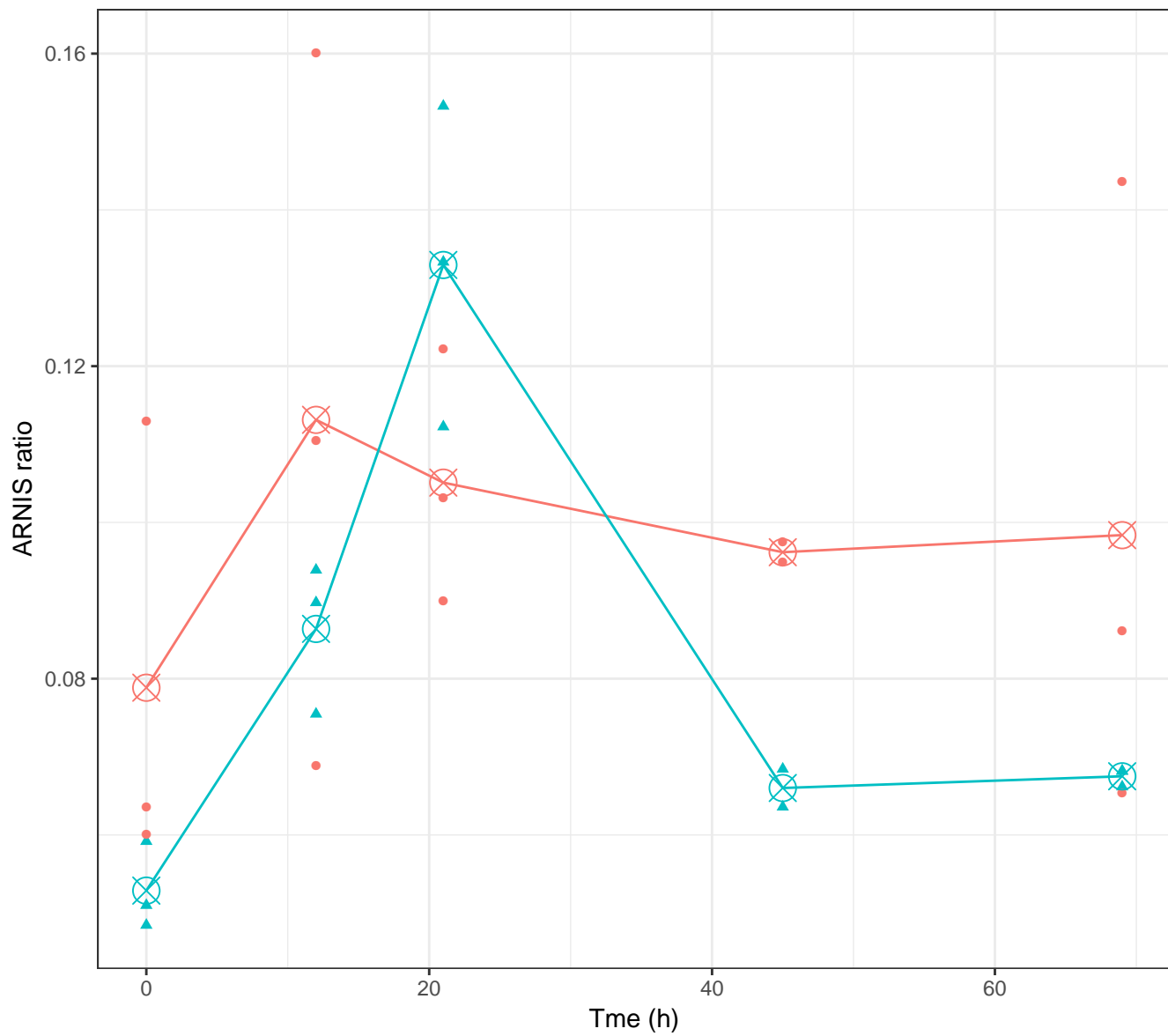


OTU.31_Betaproteobacteria_Polaromonas



Treatment  Control  Filtered-1micron

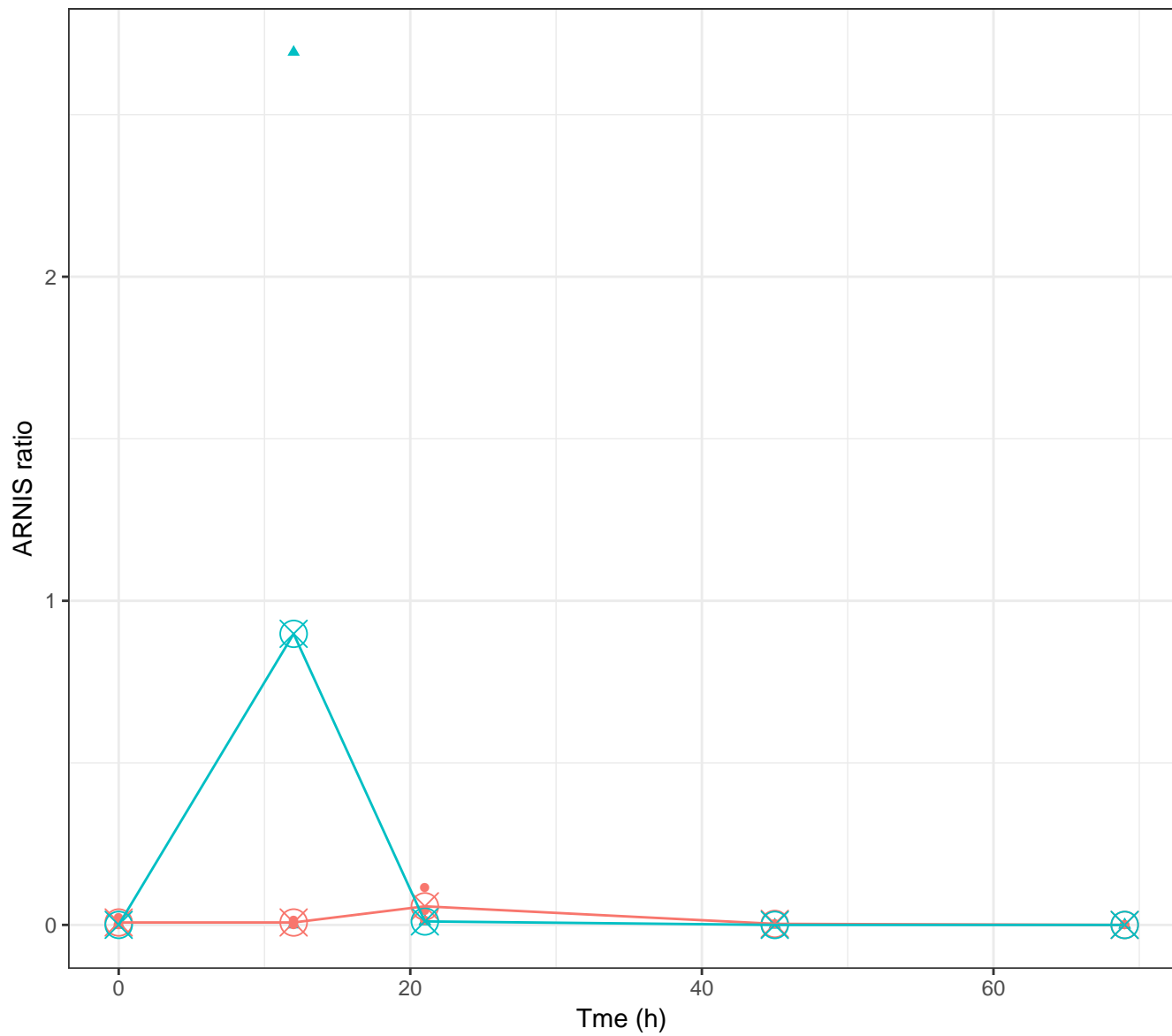
OTU.41_Actinobacteria_clade_ac_VII

Treatment Control Filtered-1micron



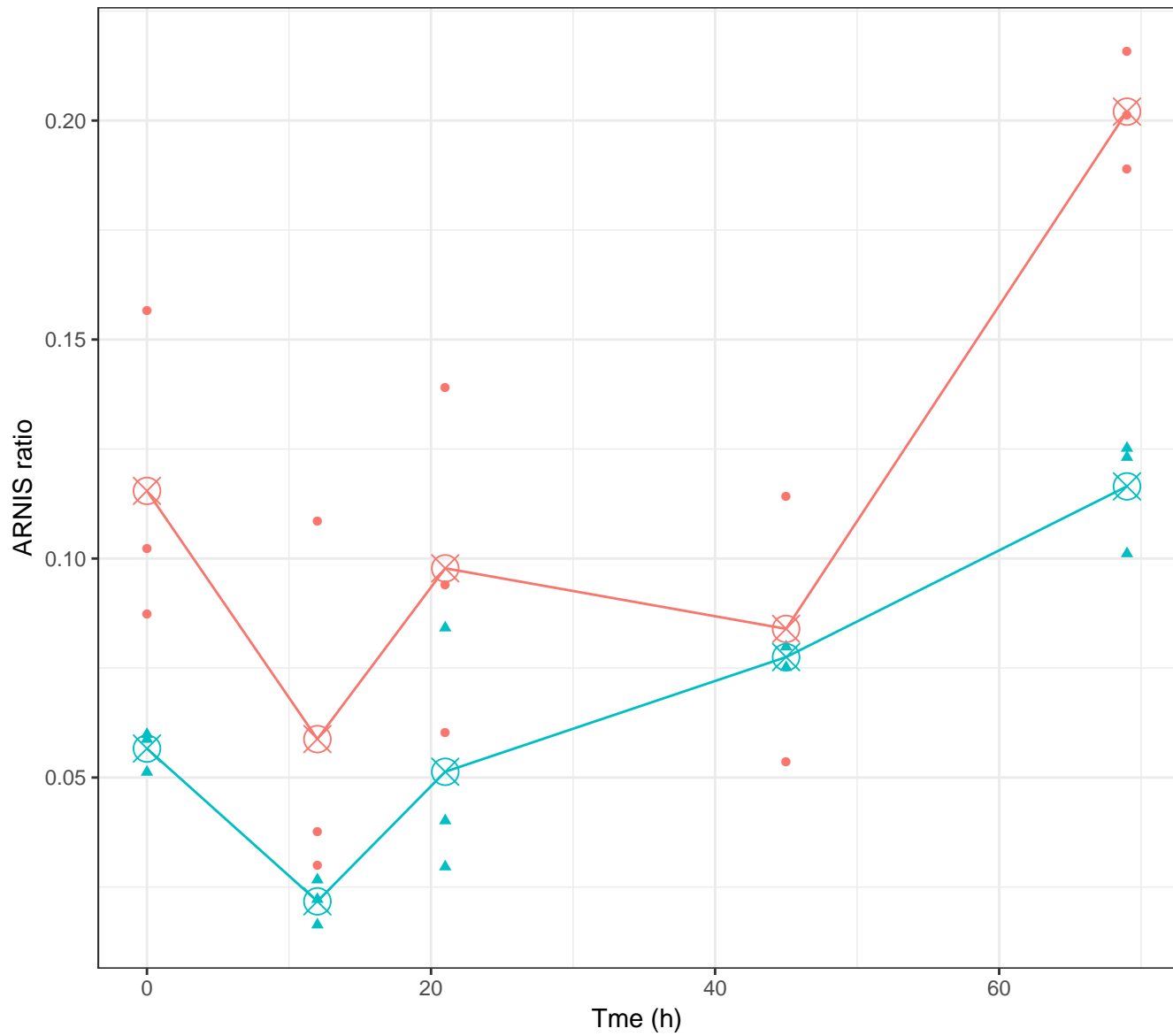
OTU.104_Alphaproteobacteria_Sphingomonas

Treatment  Control  Filtered-1micron



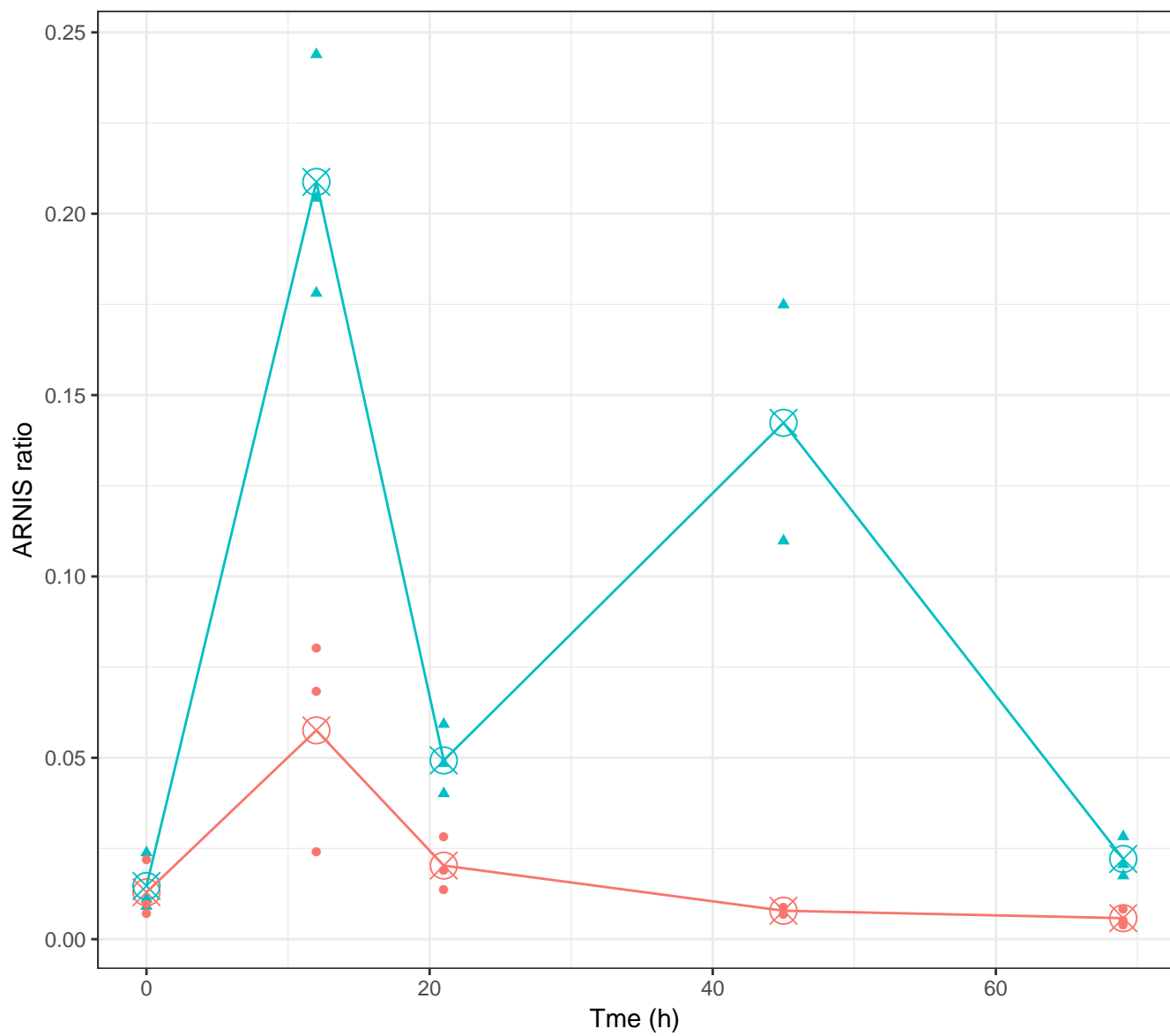
OTU.126_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron



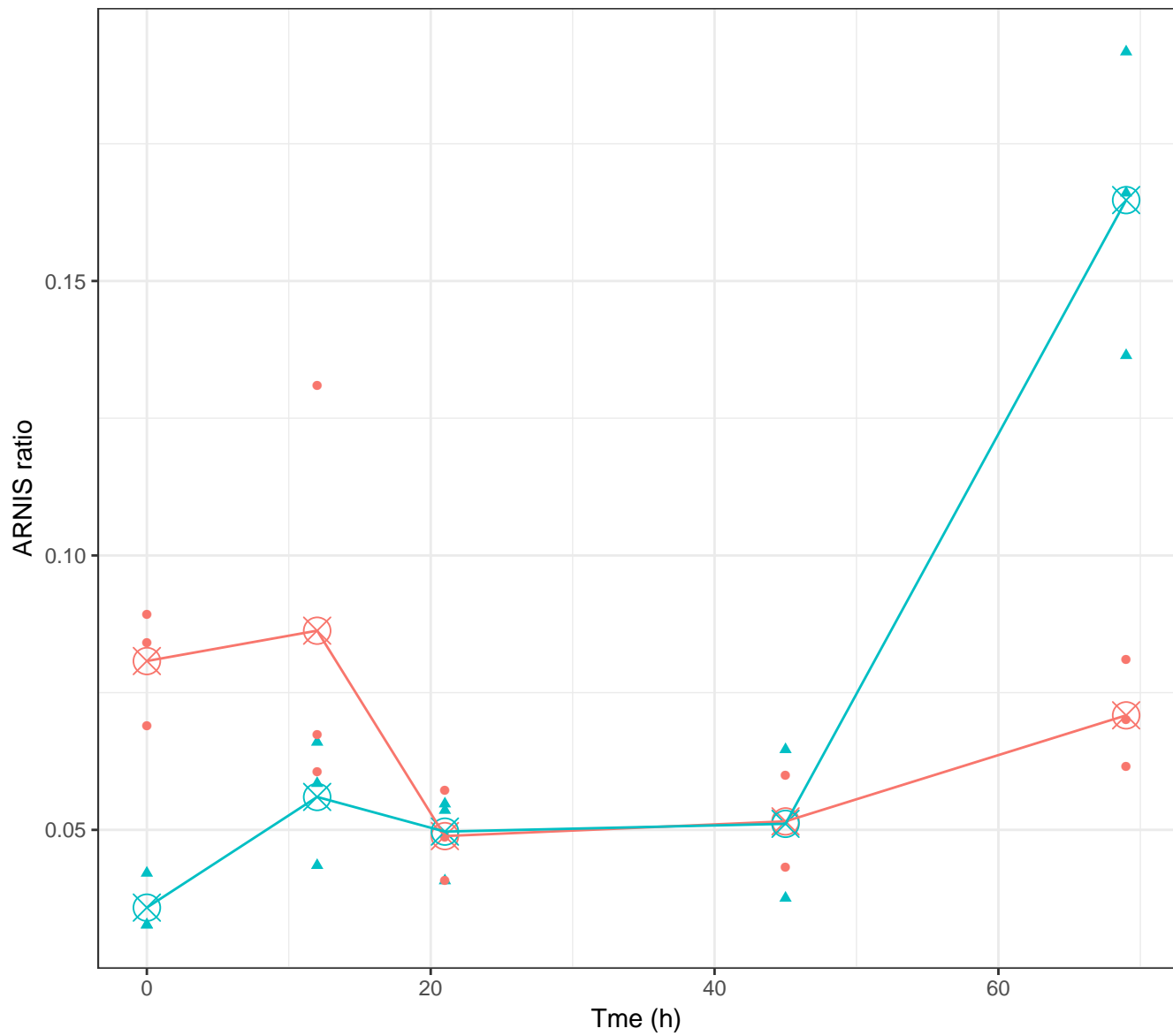
OTU.8066_Betaproteobacteria_Polynucleobacter

Treatment Control Filtered-1micron



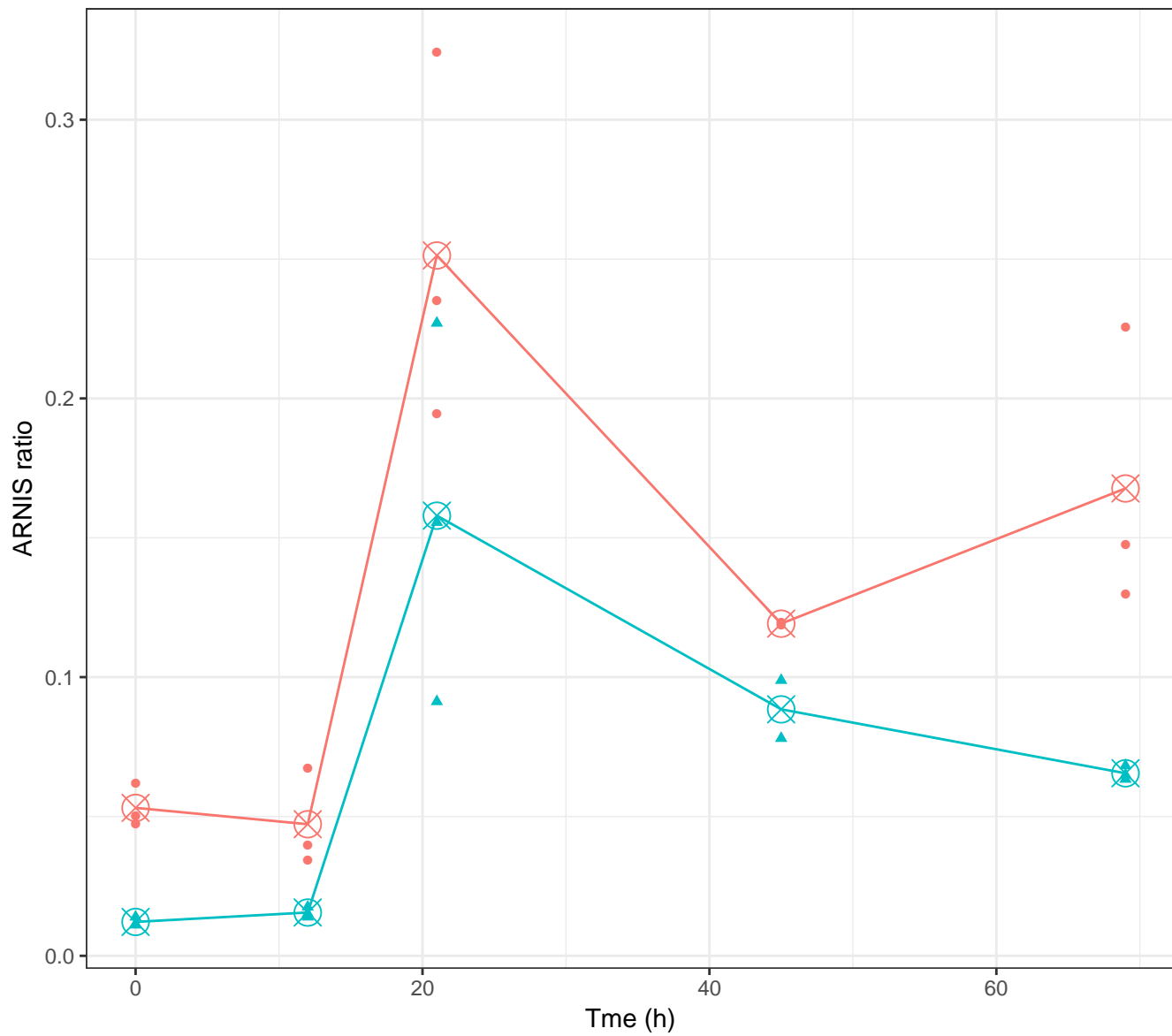
OTU.119_Alphaproteobacteria_Roseomonas

Treatment Control Filtered-1micron



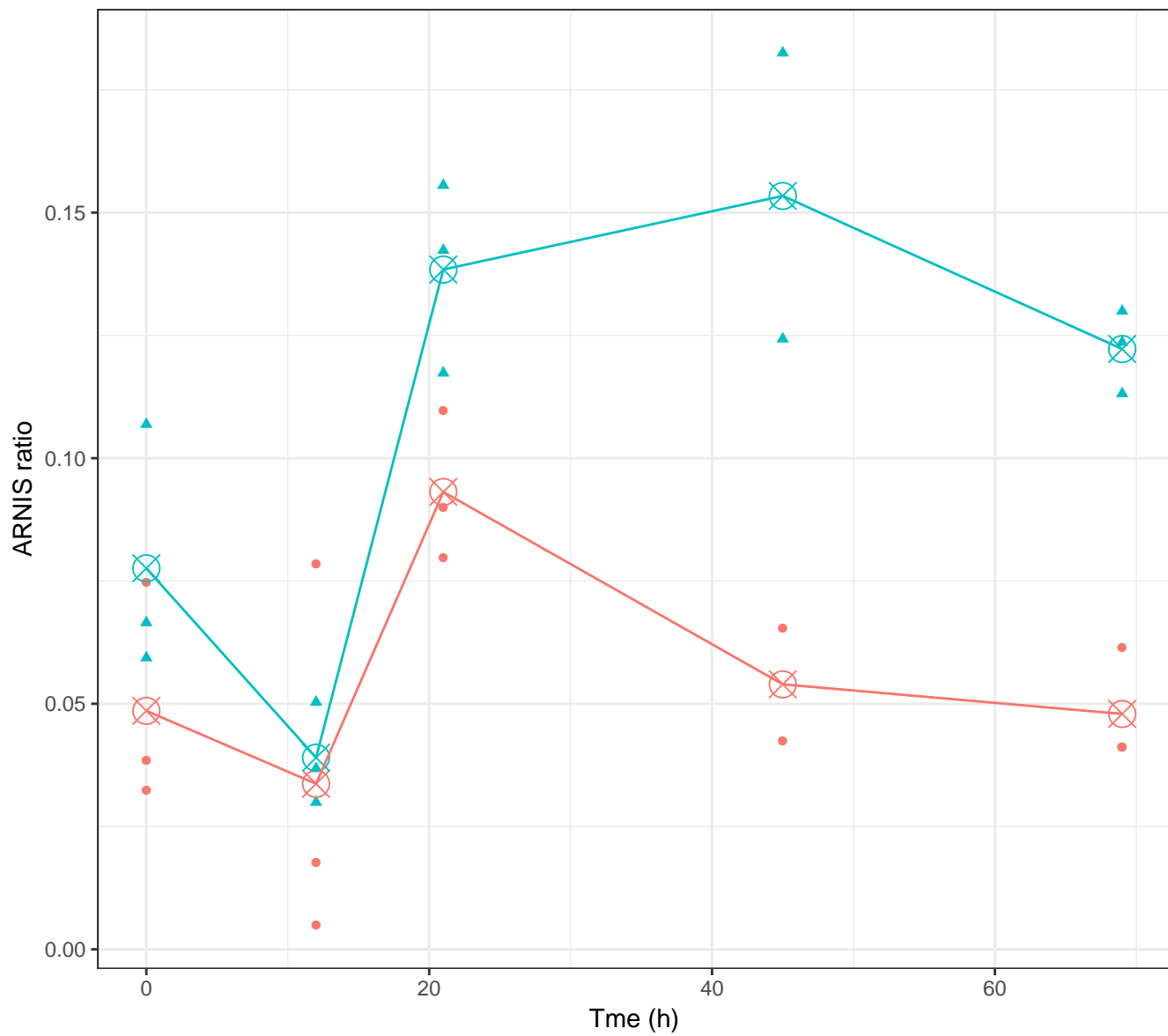
OTU.92_Bacteroidetes_Ferruginibacter

Treatment Control Filtered-1micron





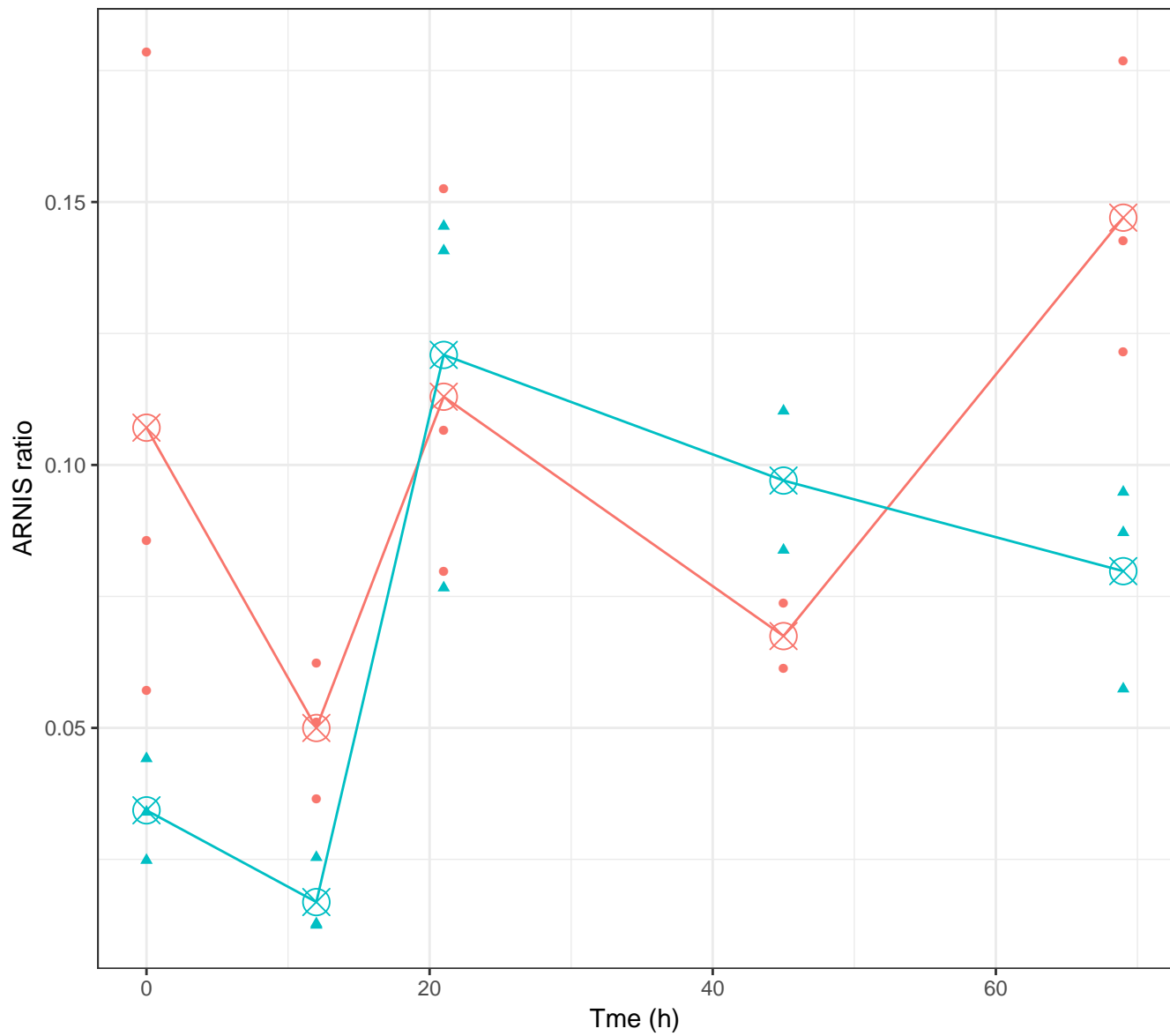
OTU.82_Bacteroidetes_Sediminibacterium

Treatment ⊗ Control ⊗ Filtered-1micron



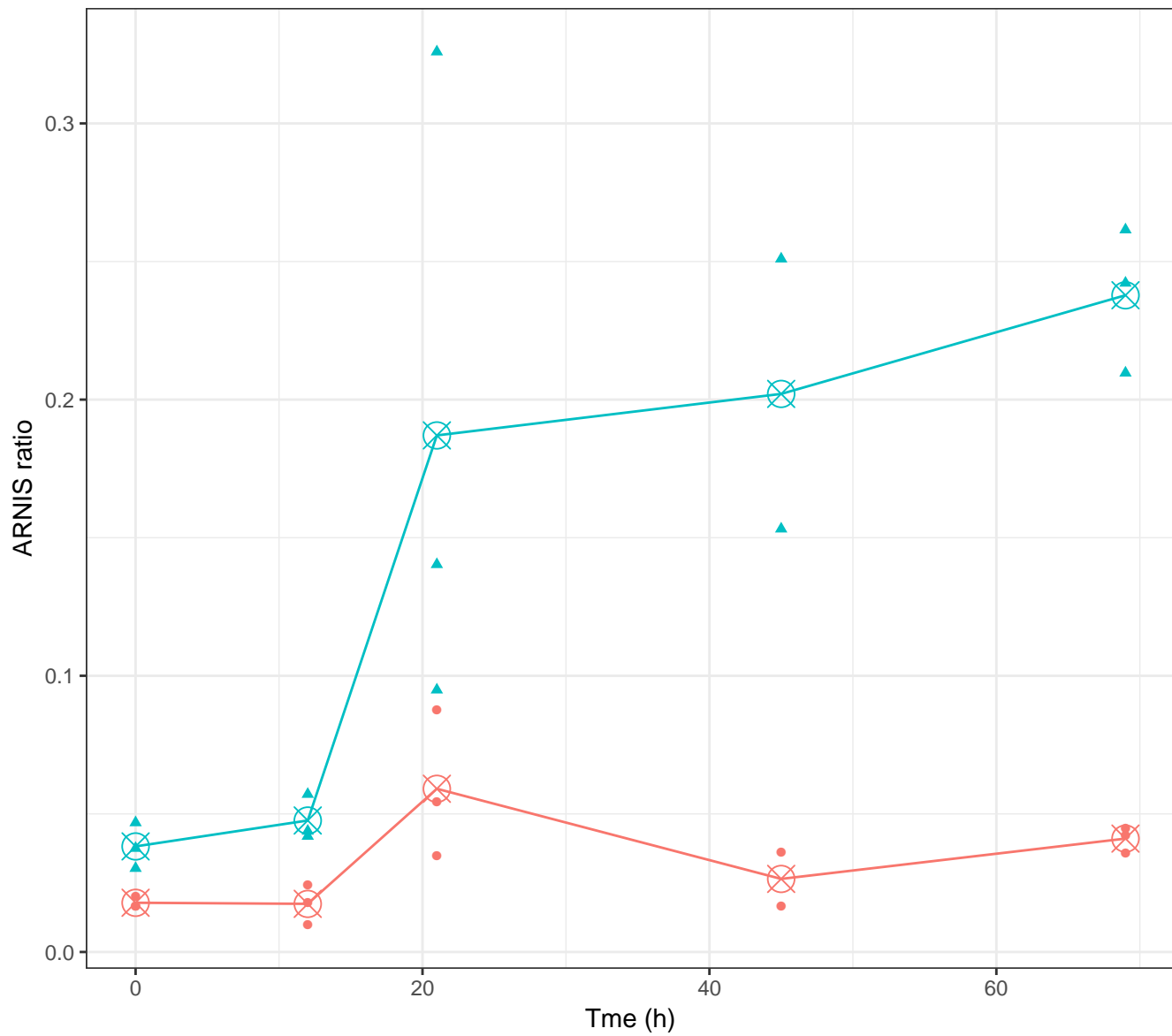


OTU.3808_Verrucomicrobia_Prostheco bacter

Treatment  Control  Filtered-1micron

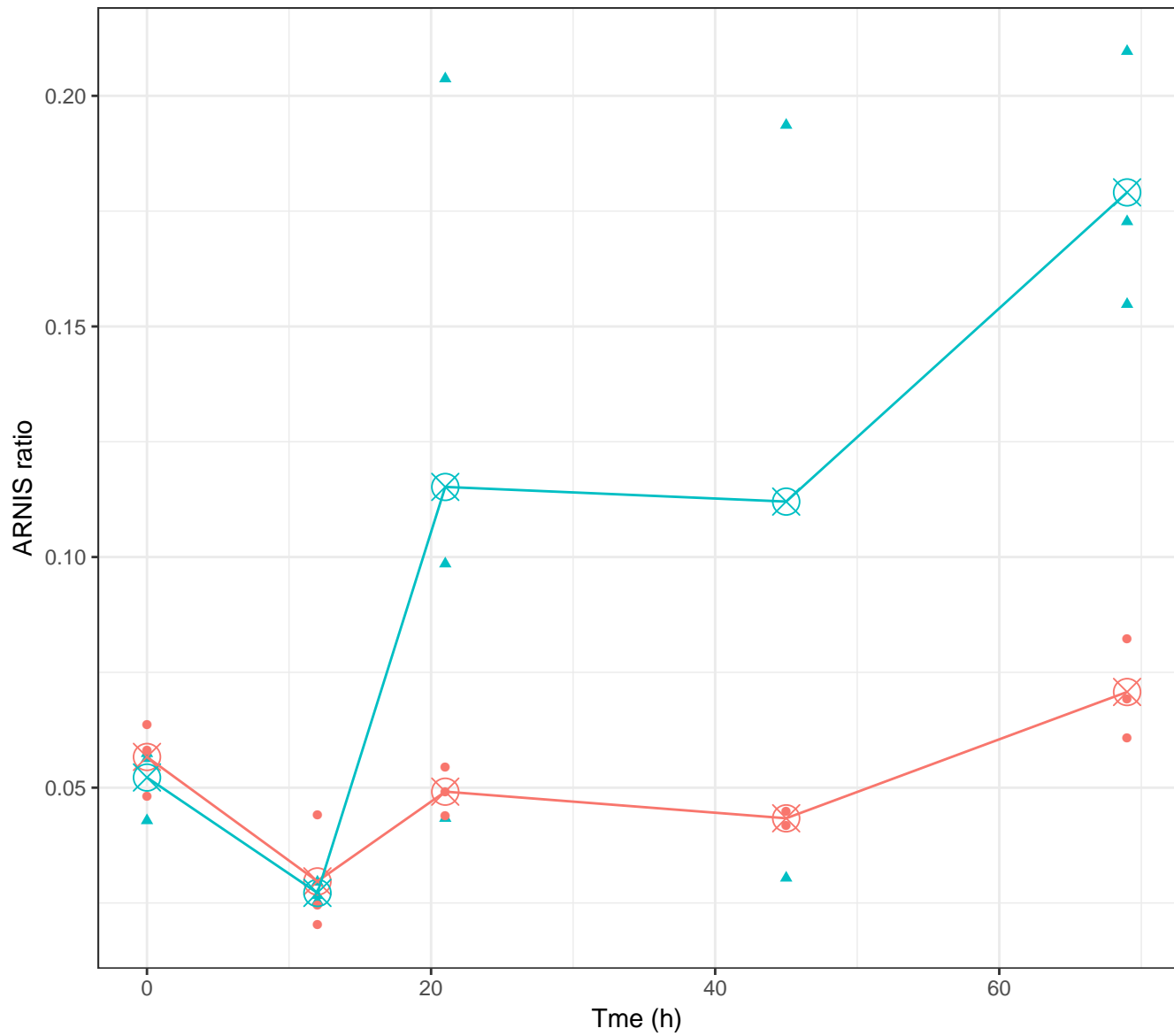


OTU.2_Betaproteobacteria_Limnohabitans_Lim.B

Treatment  Control  Filtered-1micron

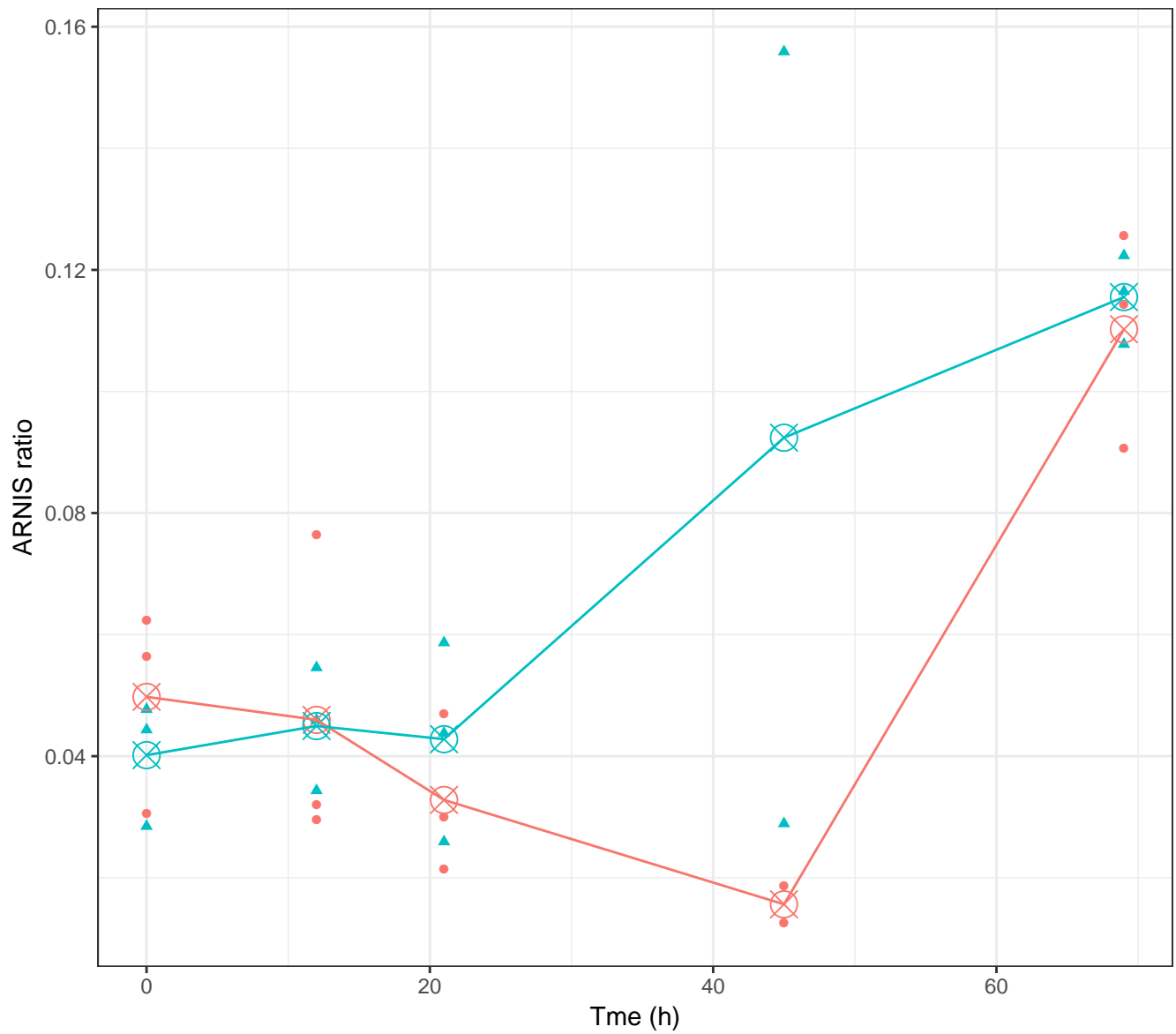
OTU.97_Verrucomicrobia_OPB35_soil_group

Treatment Control Filtered-1micron



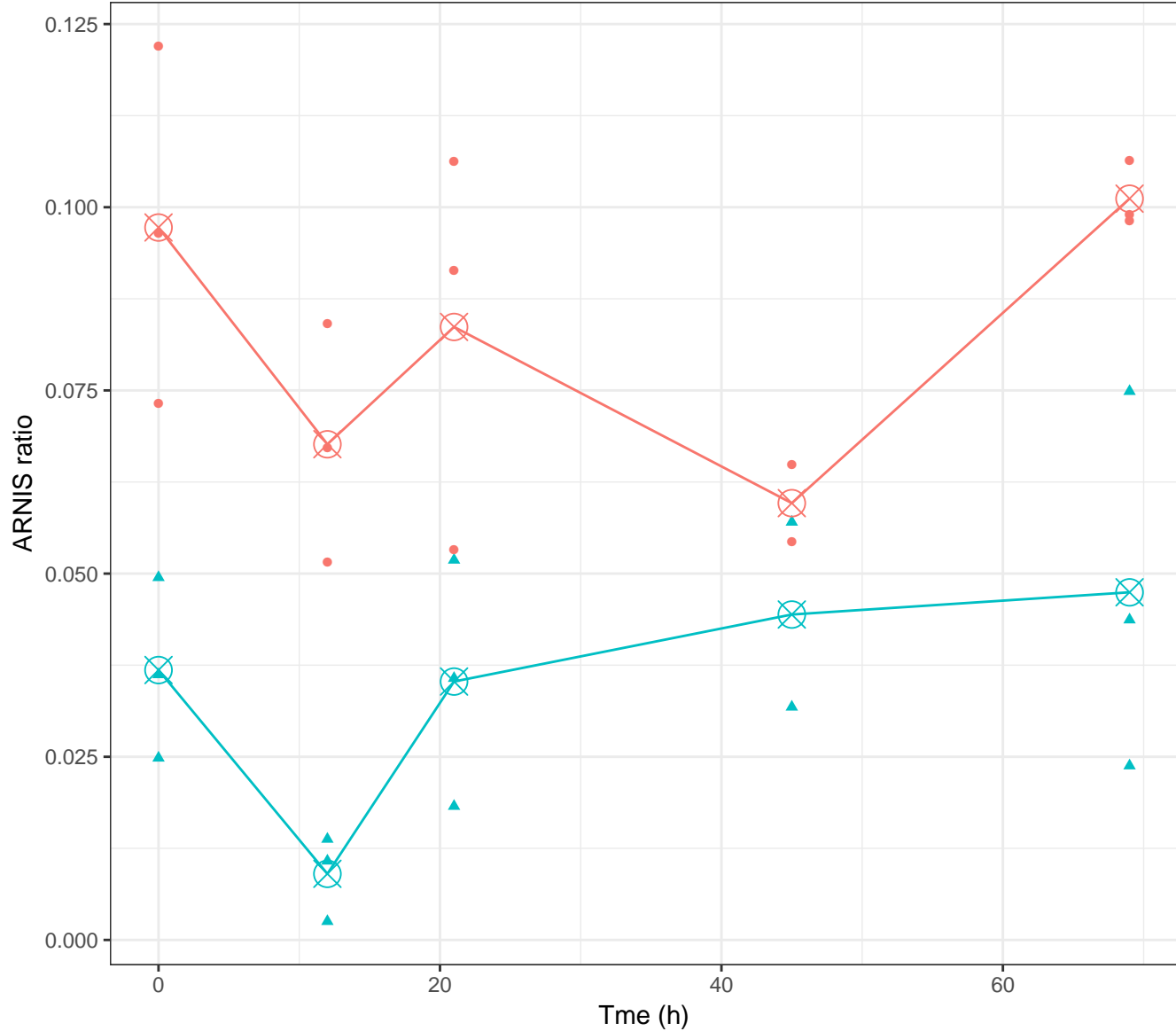
OTU.164_Gammaproteobacteria_Xanthomonadales

Treatment Control Filtered-1micron



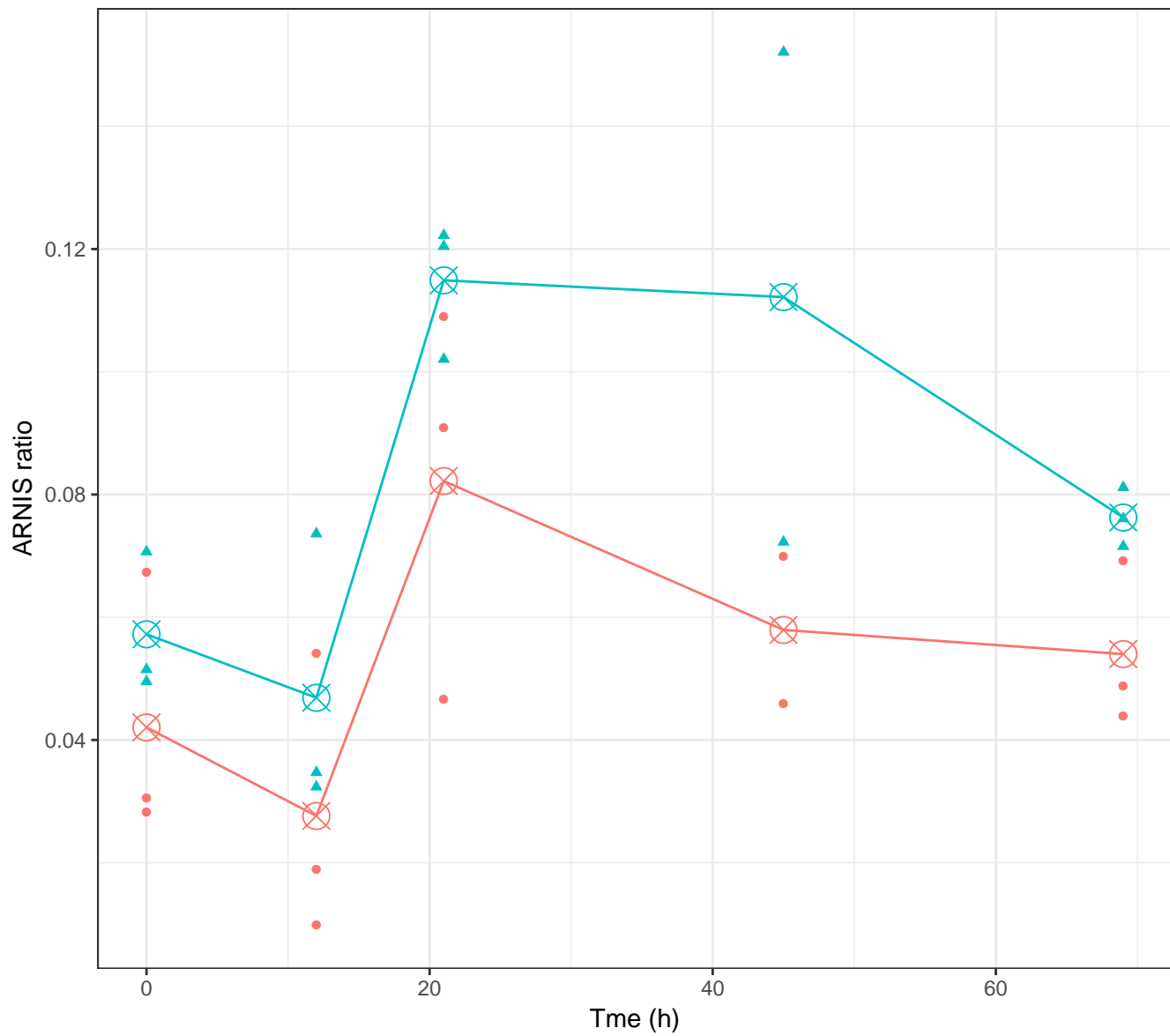
OTU.86_Betaproteobacteria_Comamonadaceae

Treatment ⊗ Control ⊗ Filtered-1micron



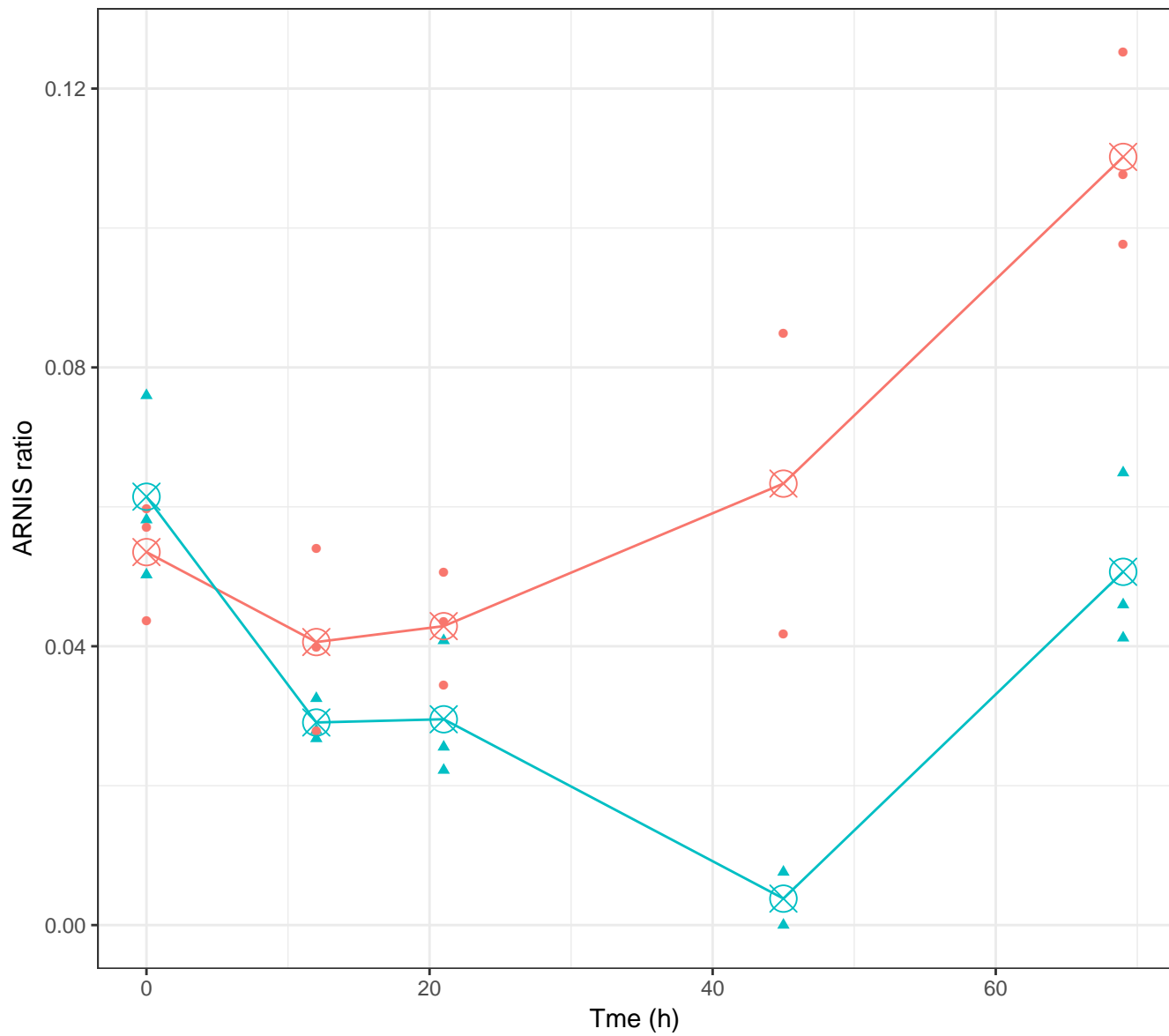
OTU.23_Bacteroidetes_Sediminibacterium

Treatment Control Filtered-1micron



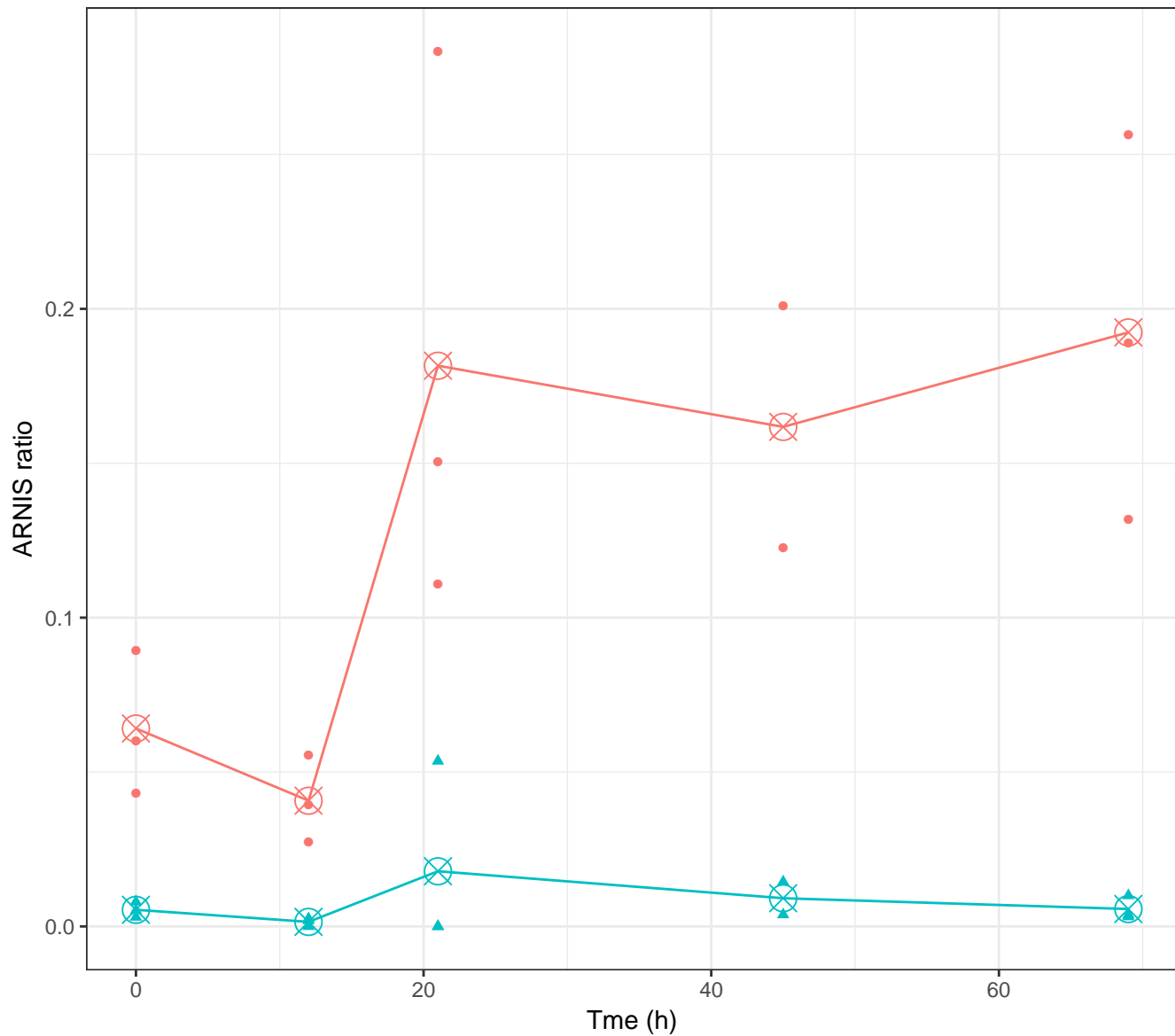


OTU.259_Chloroflexi_Roseiflexus

Treatment Control Filtered-1micron

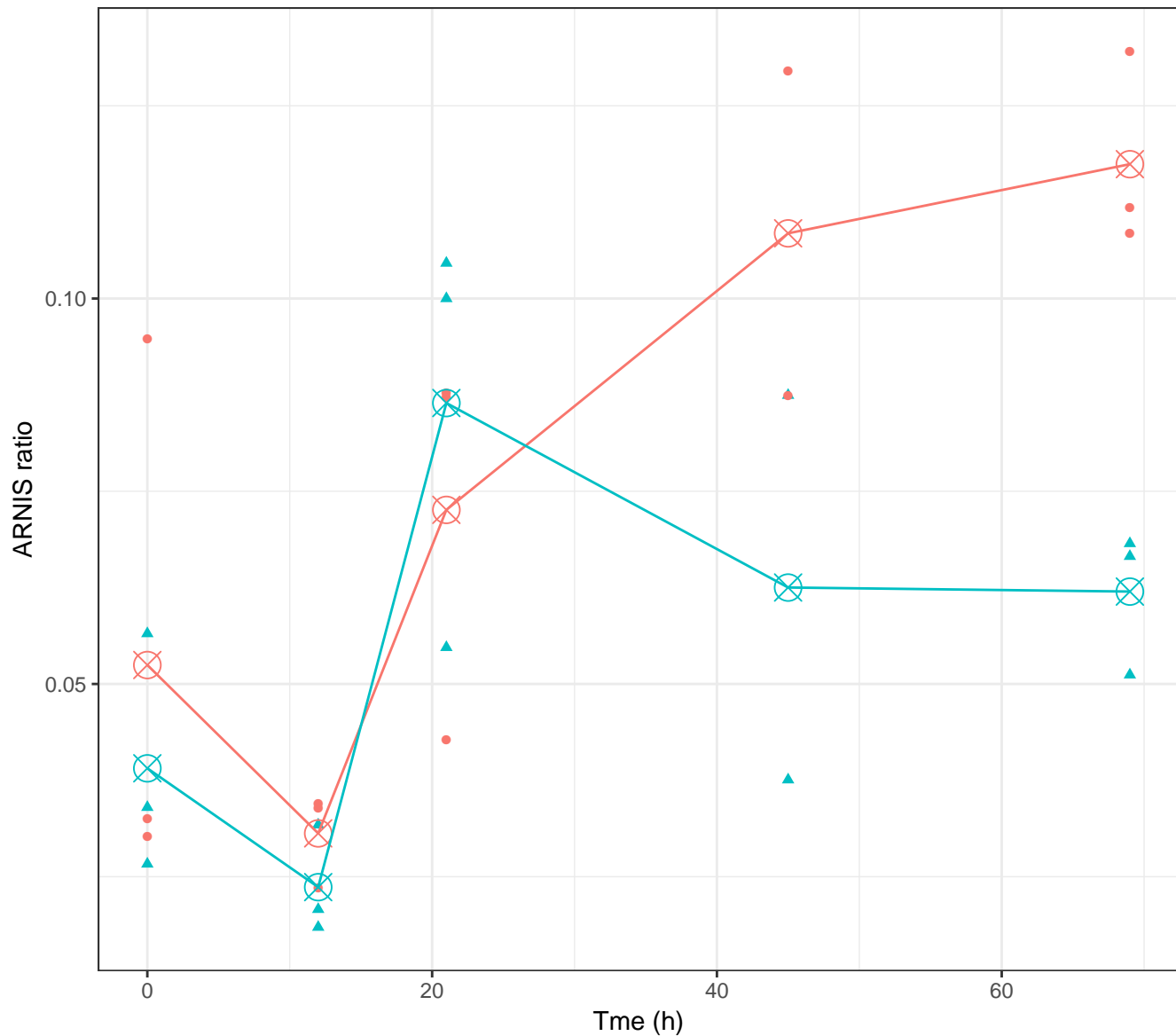


OTU.173_Bacteroidetes_Sphingobacteriaceae_LiUU.11.161

Treatment  Control  Filtered-1micron

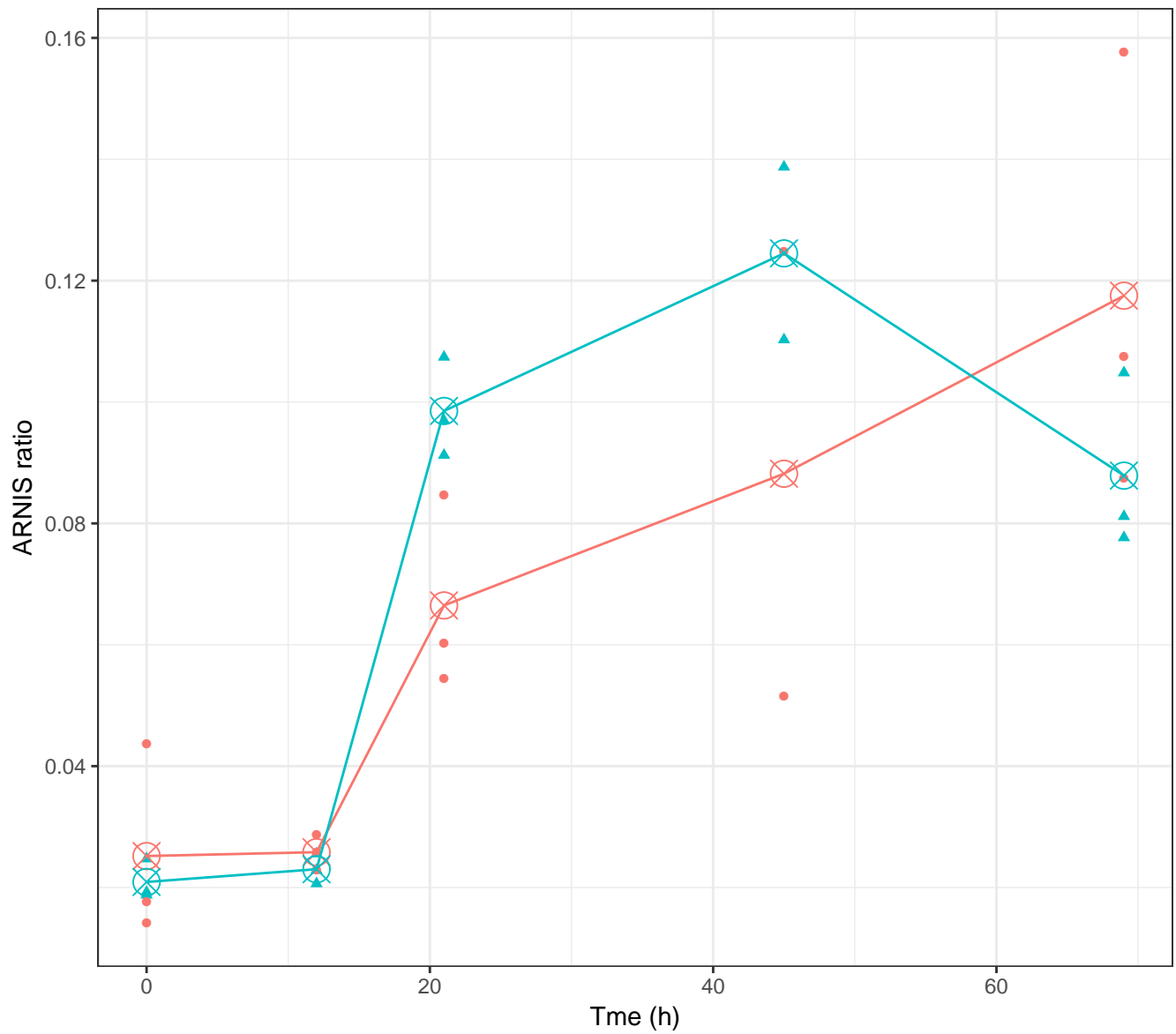
OTU.154_Verrucomicrobia_FukuN18_freshwater_group

Treatment ⊗ Control ⊗ Filtered-1micron



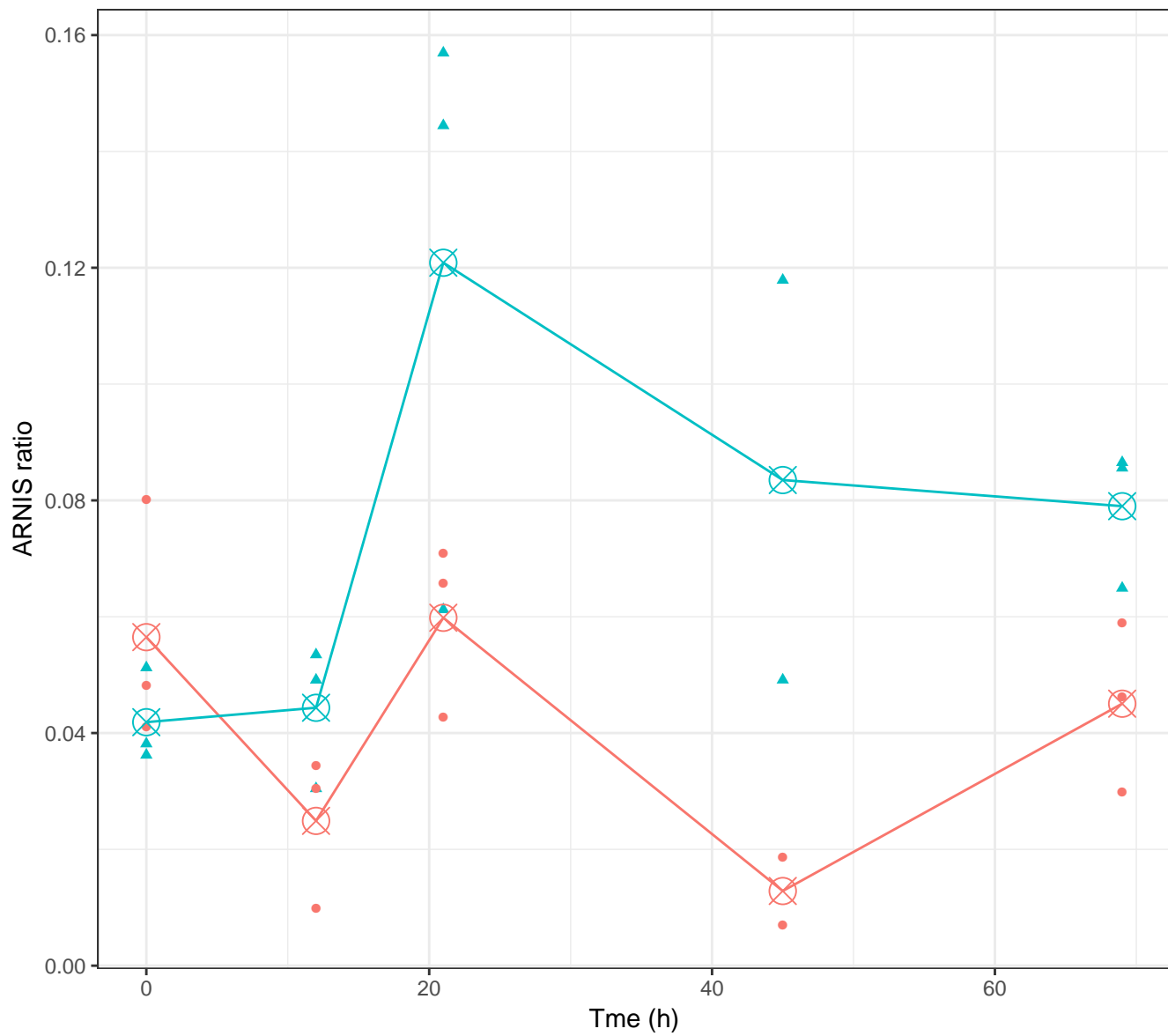
OTU.149_Bacteroidetes_Hydrotalea

Treatment Control Filtered-1micron



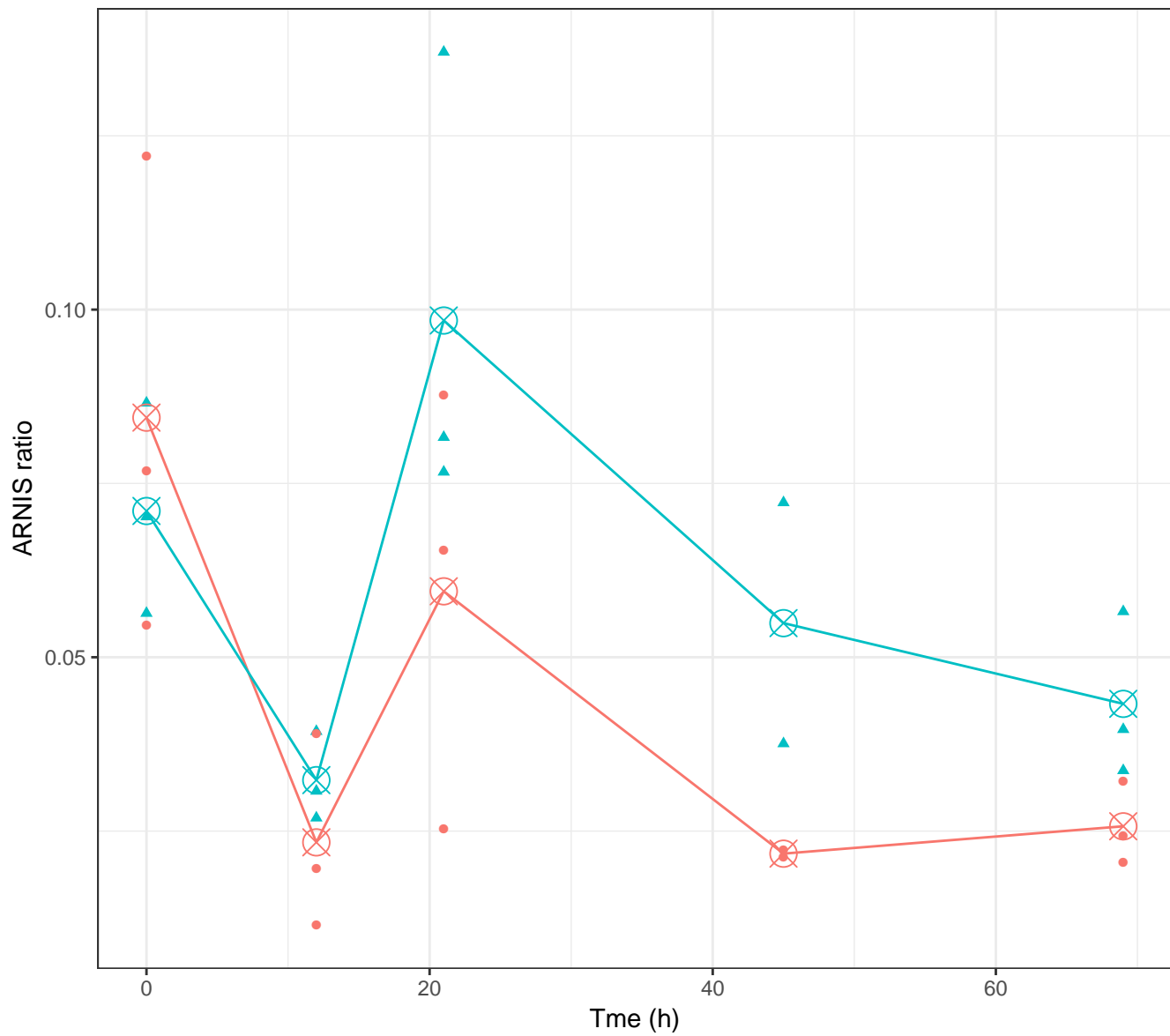
OTU.142_Actinobacteria_clade_acl.C

Treatment ⊗ Control ⊗ Filtered-1micron



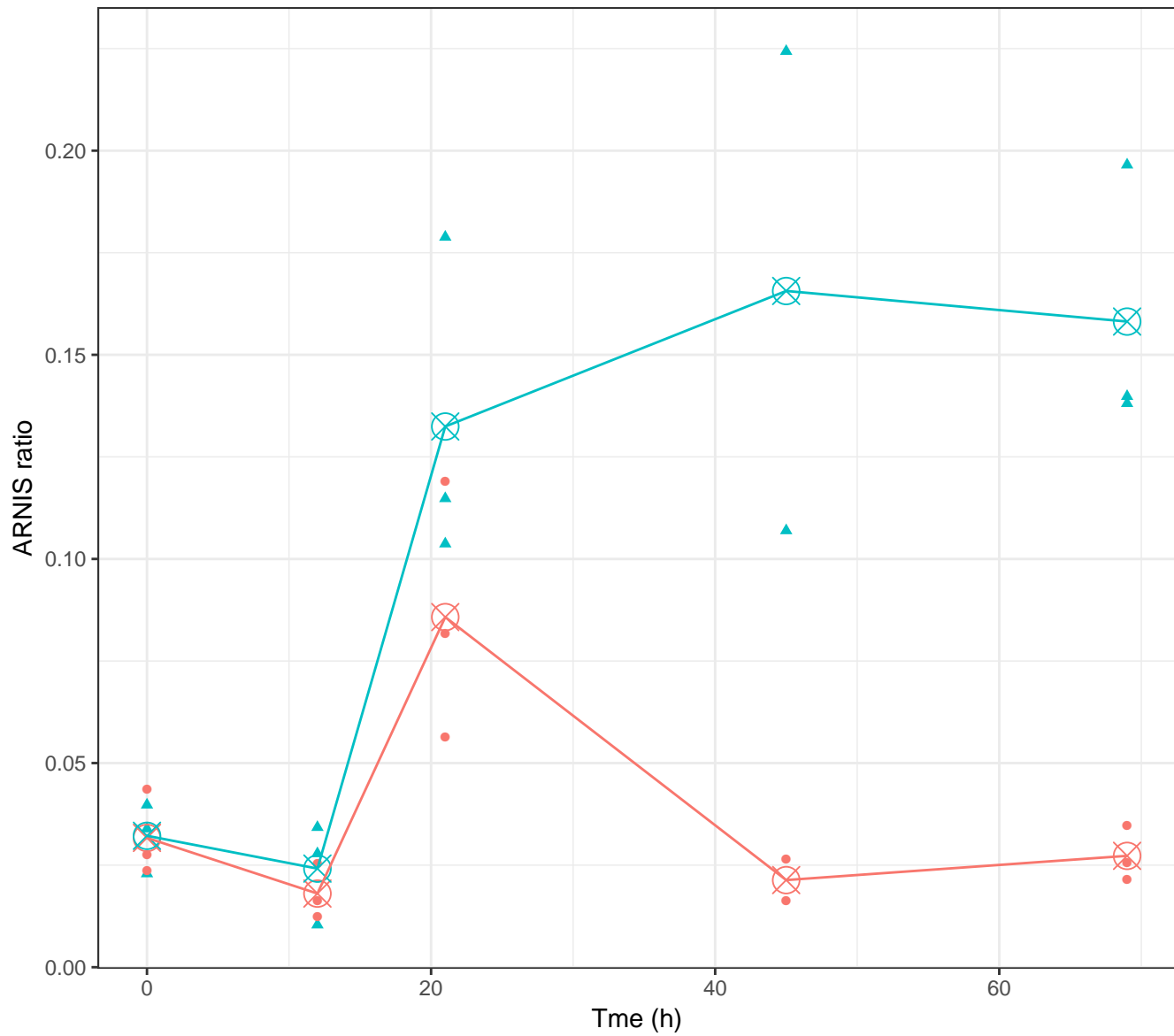
OTU.147_Chlorobi_OPB56

Treatment ⊗ Control ⊗ Filtered-1micron



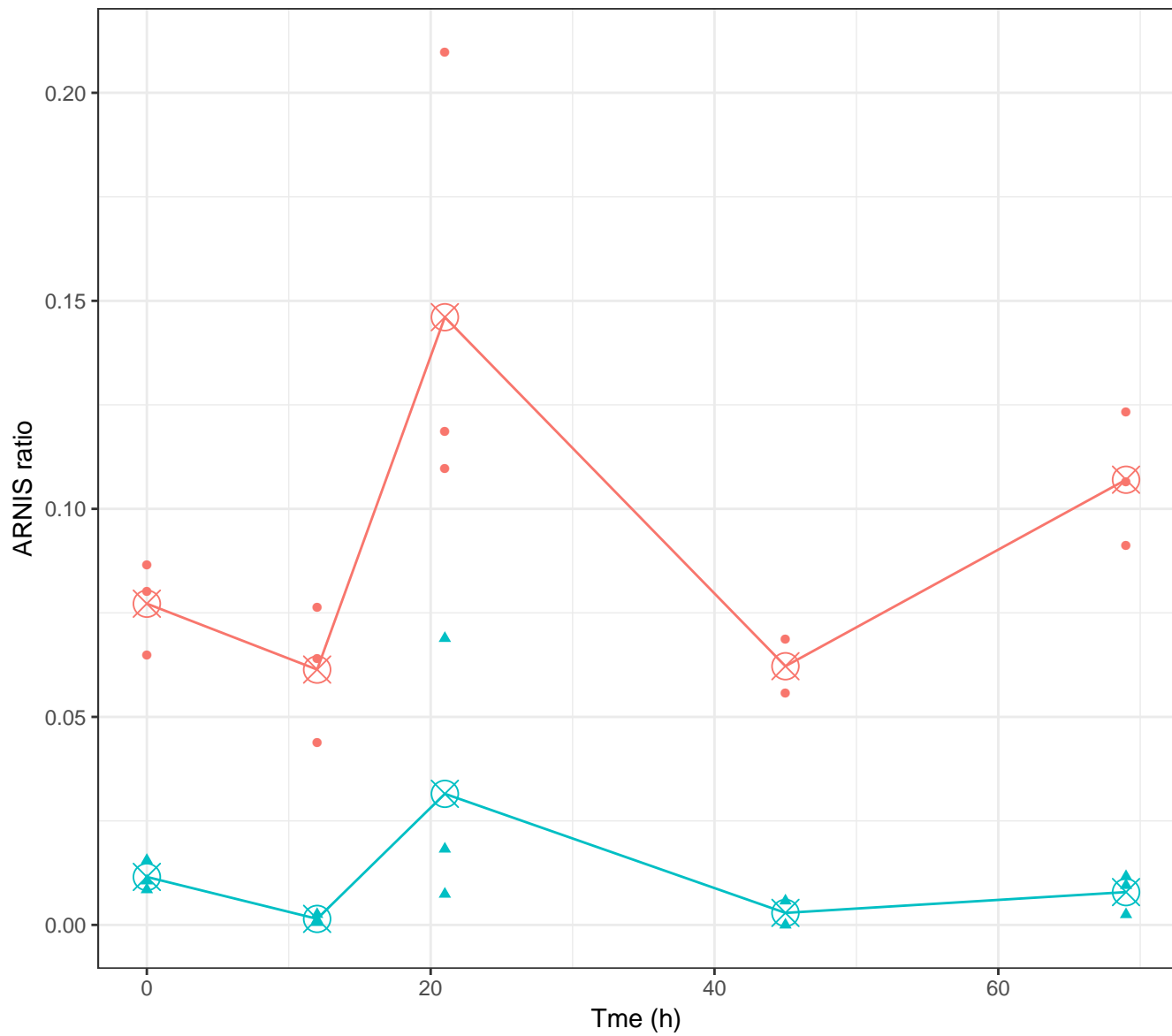
OTU.145_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



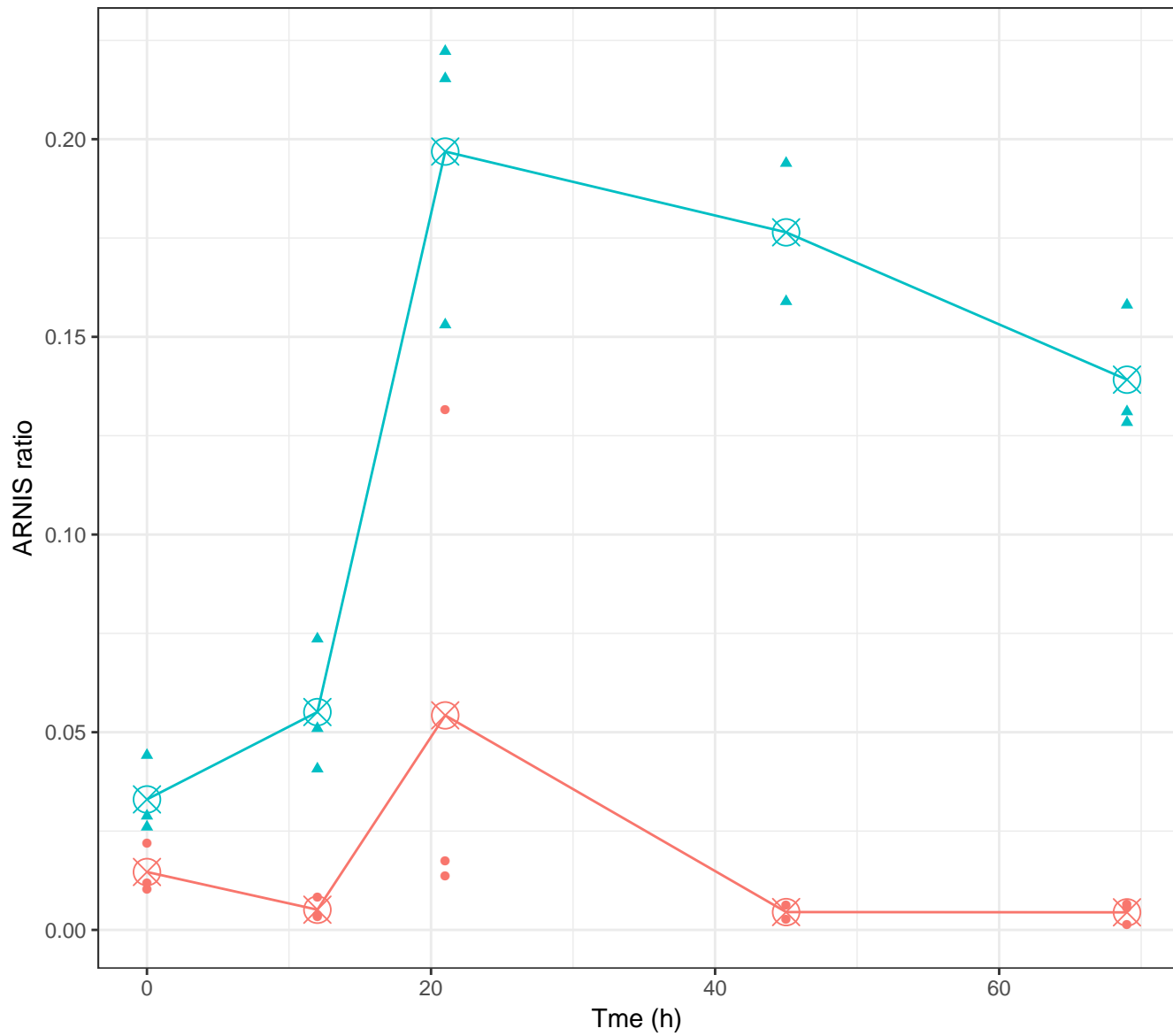
OTU.188_Planctomycetes_Pirellula

Treatment Control Filtered-1micron



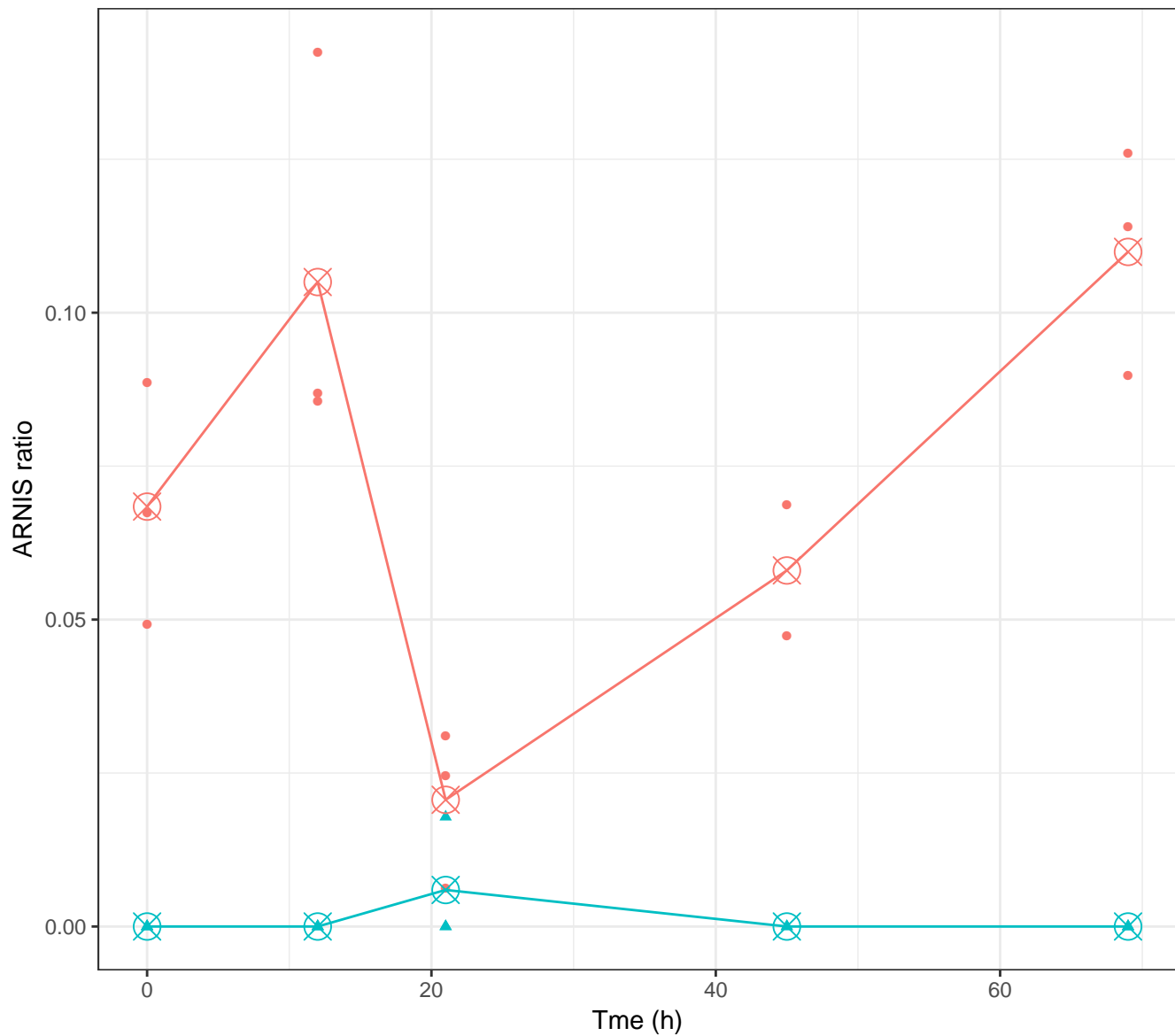
OTU.146_Bacteroidetes_Chitinophagaceae

Treatment ⊗ Control ⊗ Filtered-1micron



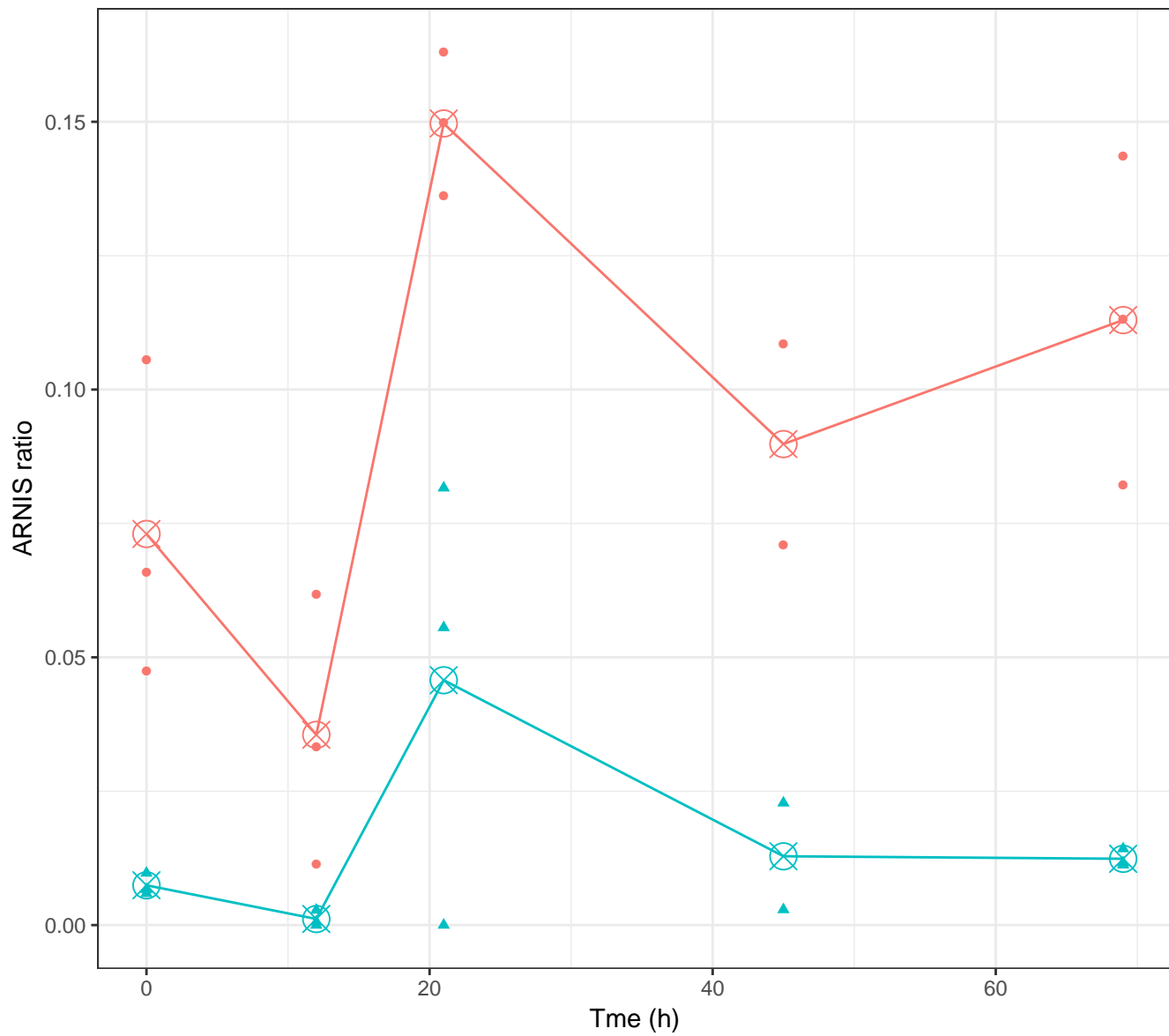
OTU.155_Alphaproteobacteria_Rhizobiales_alpha_I_cluster

Treatment Control Filtered-1micron



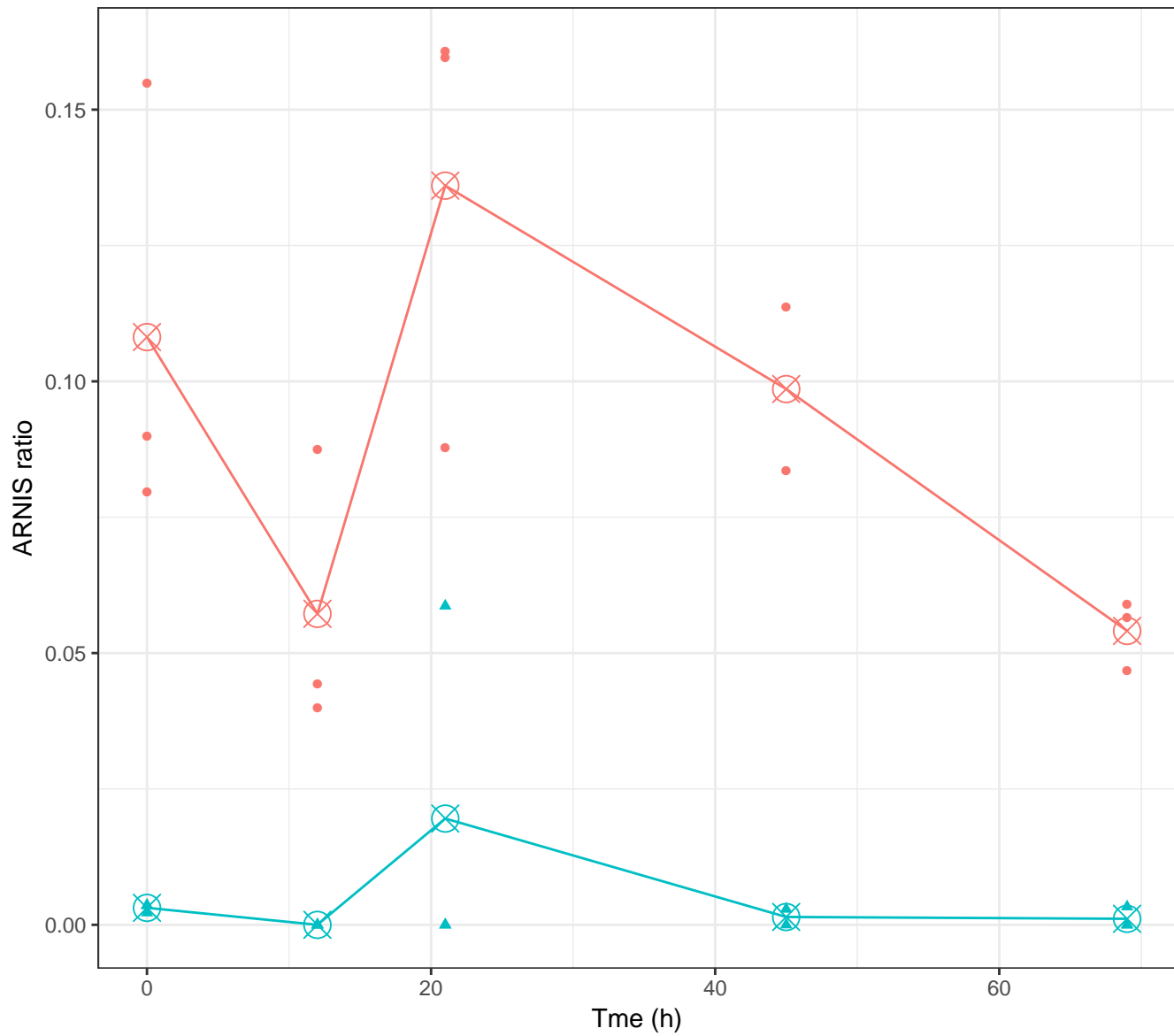
OTU.160_Verrucomicrobia_Verrucomicrobiaceae

Treatment ⊗ Control ⊗ Filtered-1micron



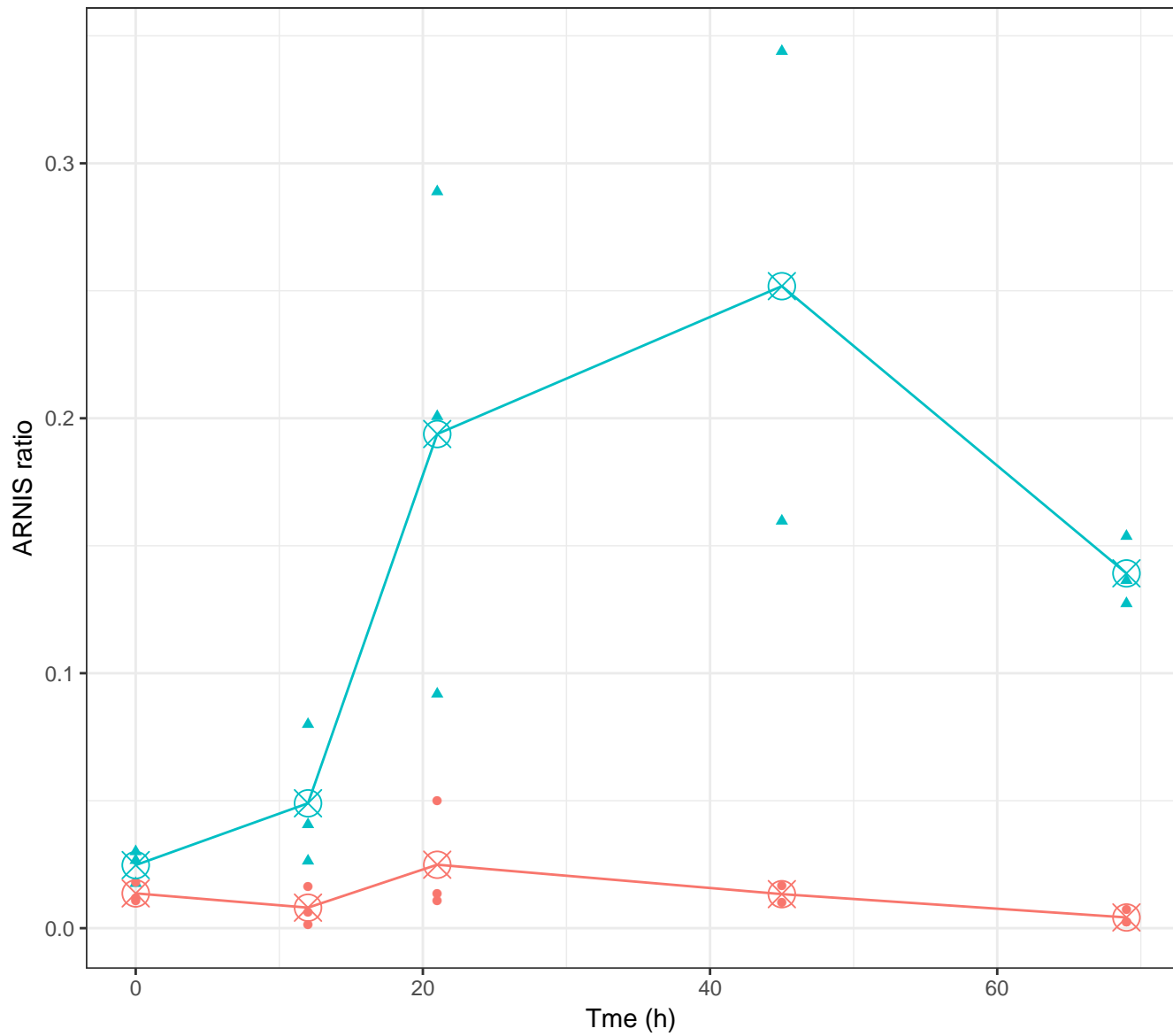


OTU.170_Planctomycetes_Planctomyces

Treatment ⊗ Control ⊗ Filtered-1micron

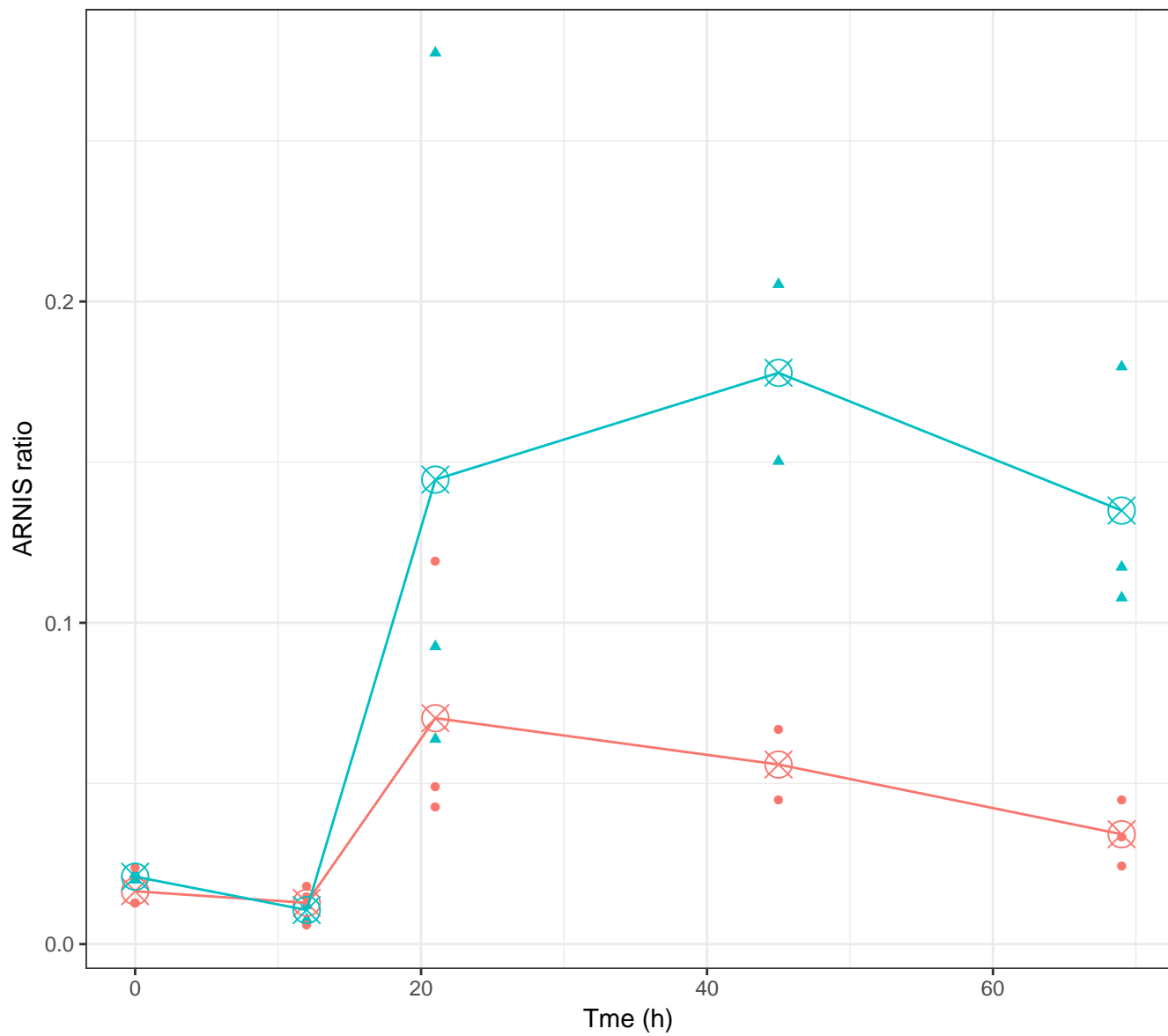


OTU.156_Bacteroidetes_NS11.12_marine_group

Treatment  Control  Filtered-1micron

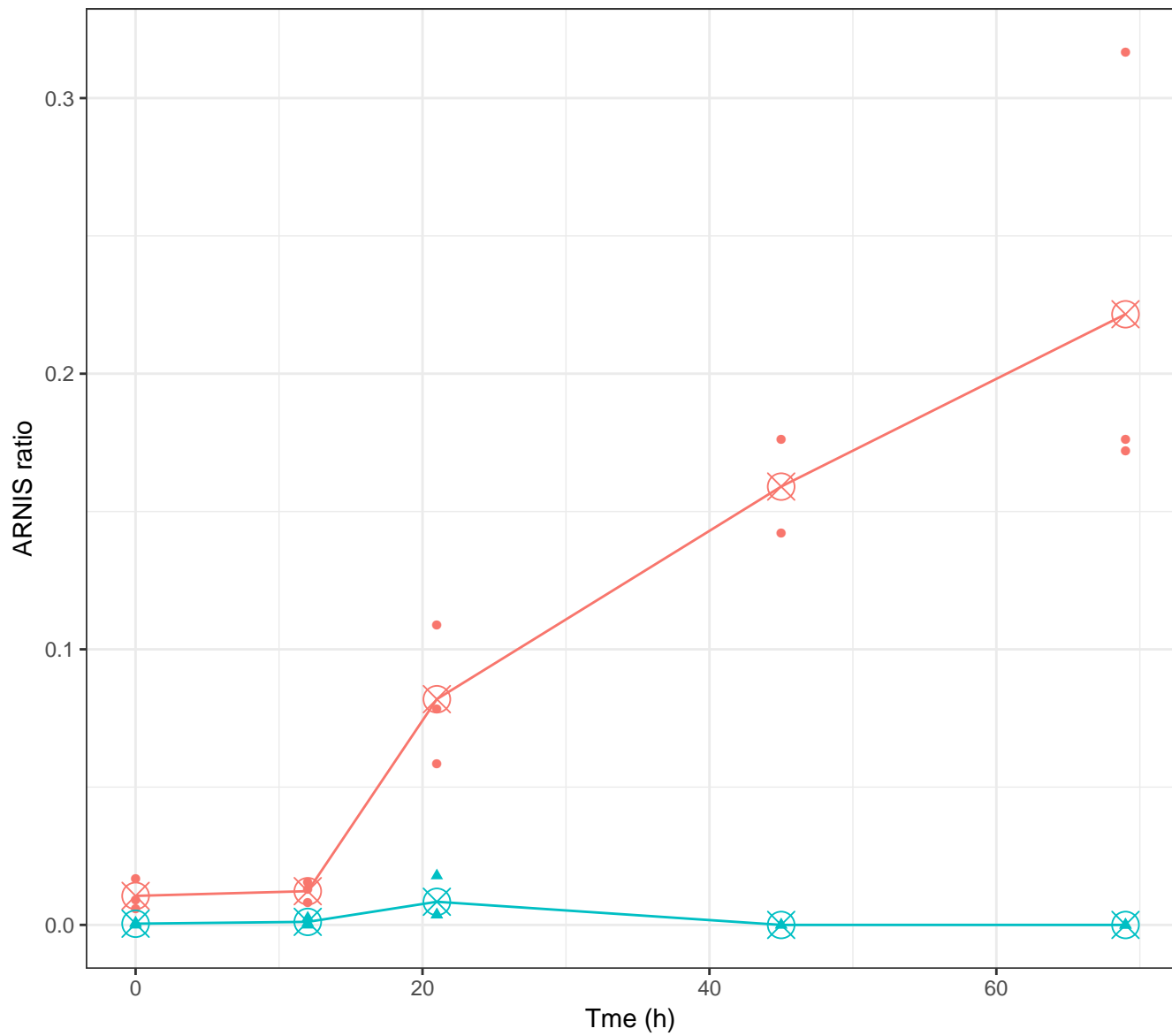
OTU.1912_Bacteroidetes_Pedobacter

Treatment Control Filtered-1micron



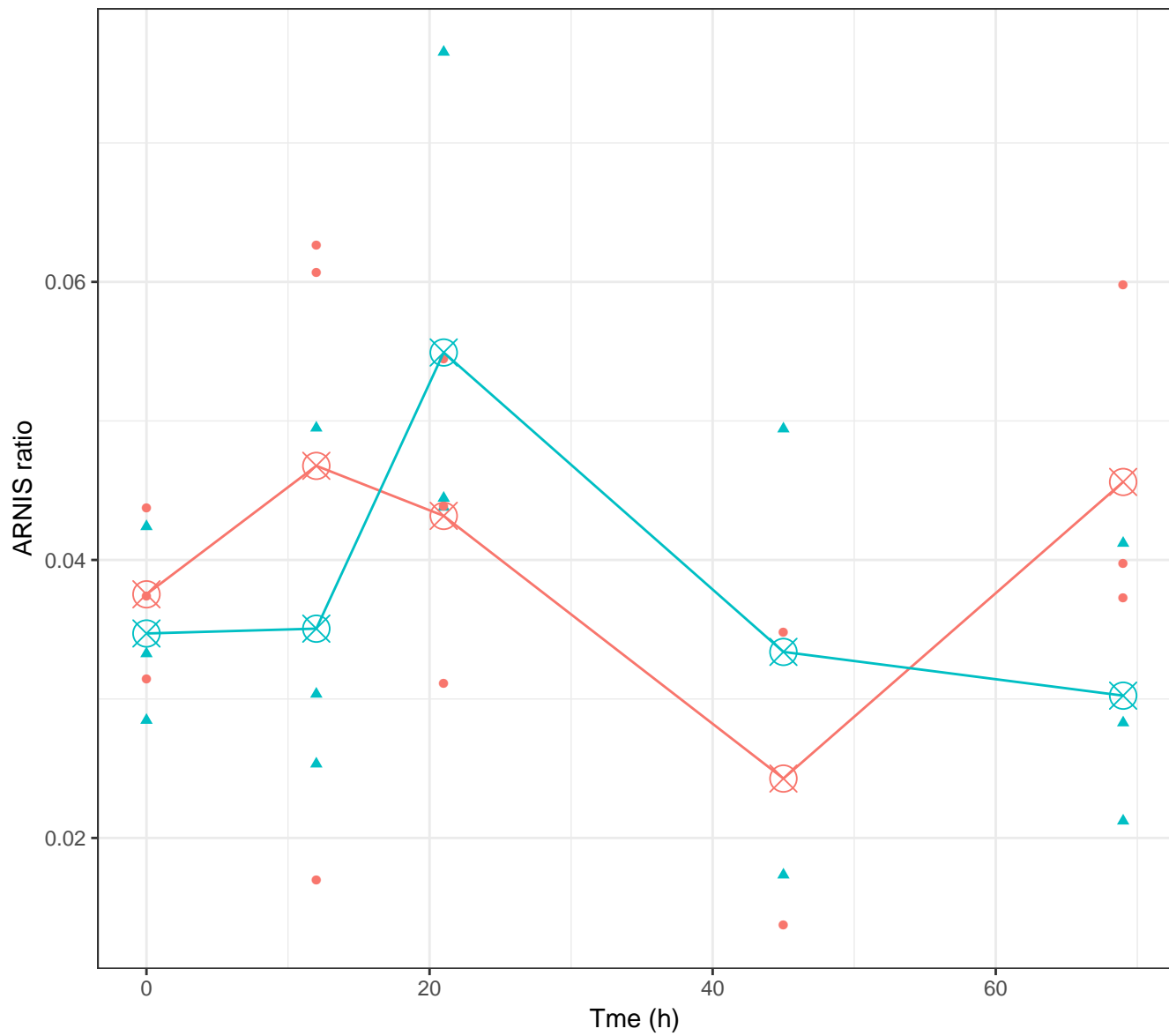
OTU.217_Gammaproteobacteria_Legionella

Treatment Control Filtered-1micron



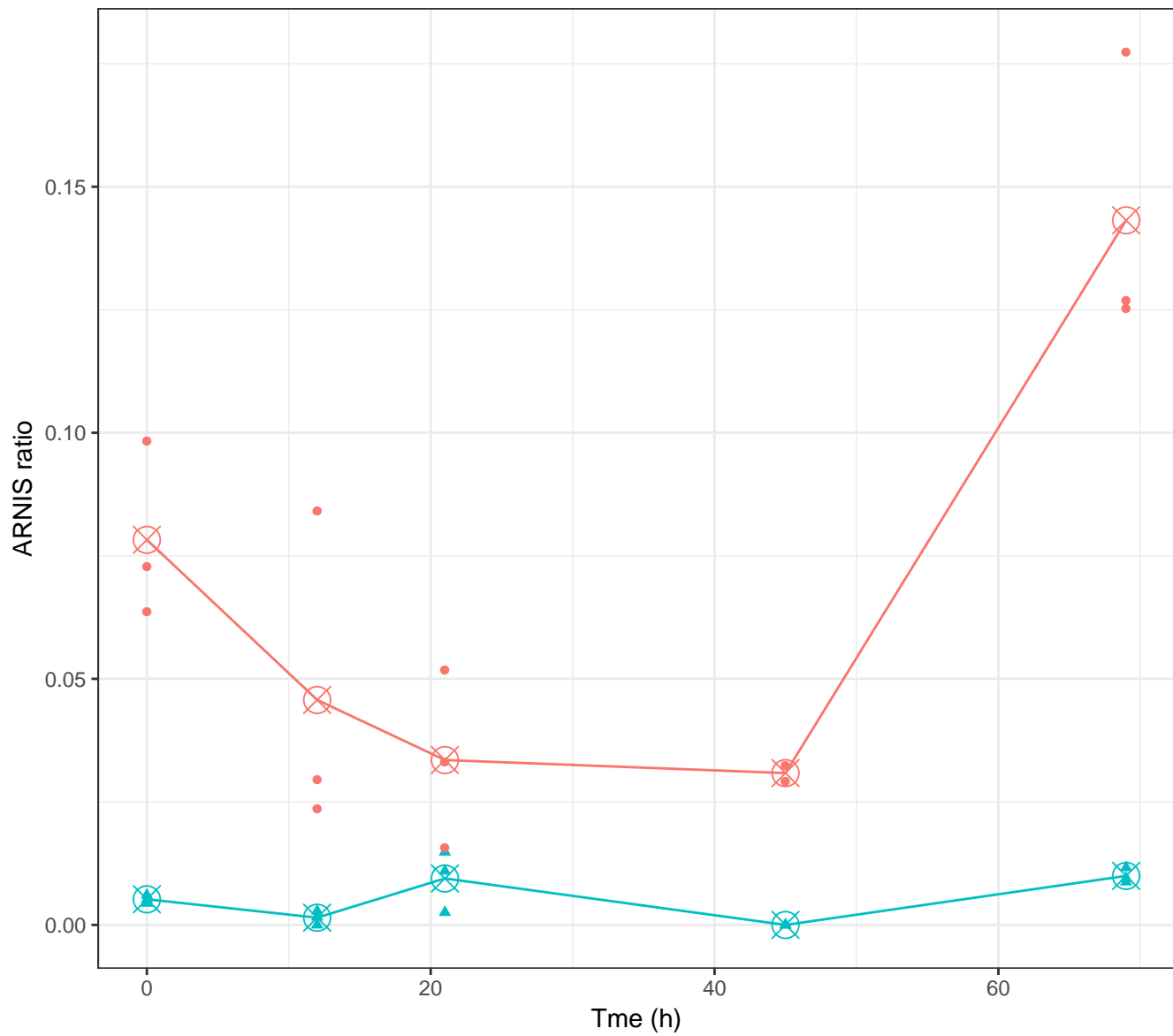
OTU.39_Actinobacteria_acll.luna_MWH.Ta3

Treatment ⊗ Control ⊗ Filtered-1micron



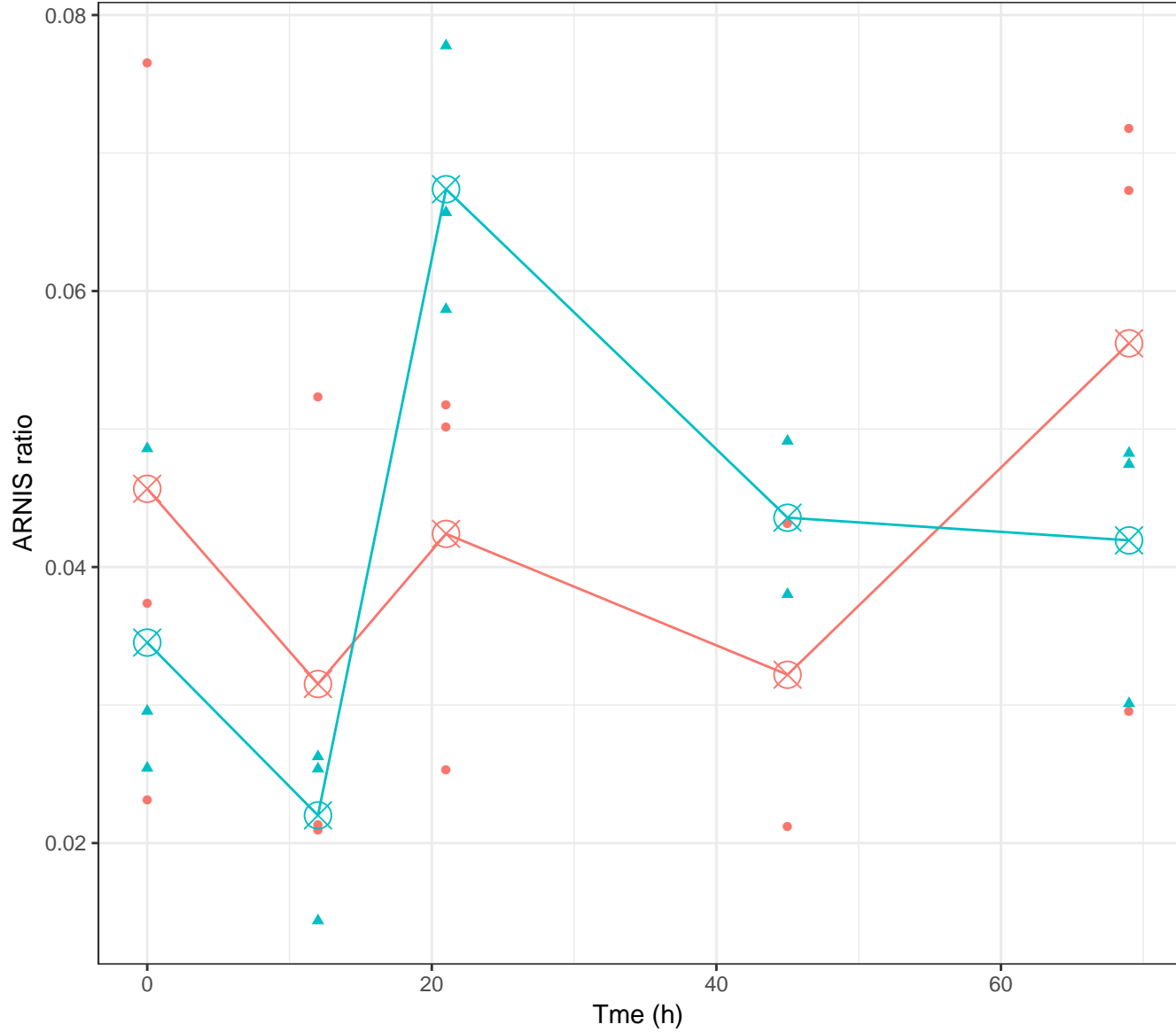
OTU.165_Planctomyces_OM190

Treatment Control Filtered-1micron



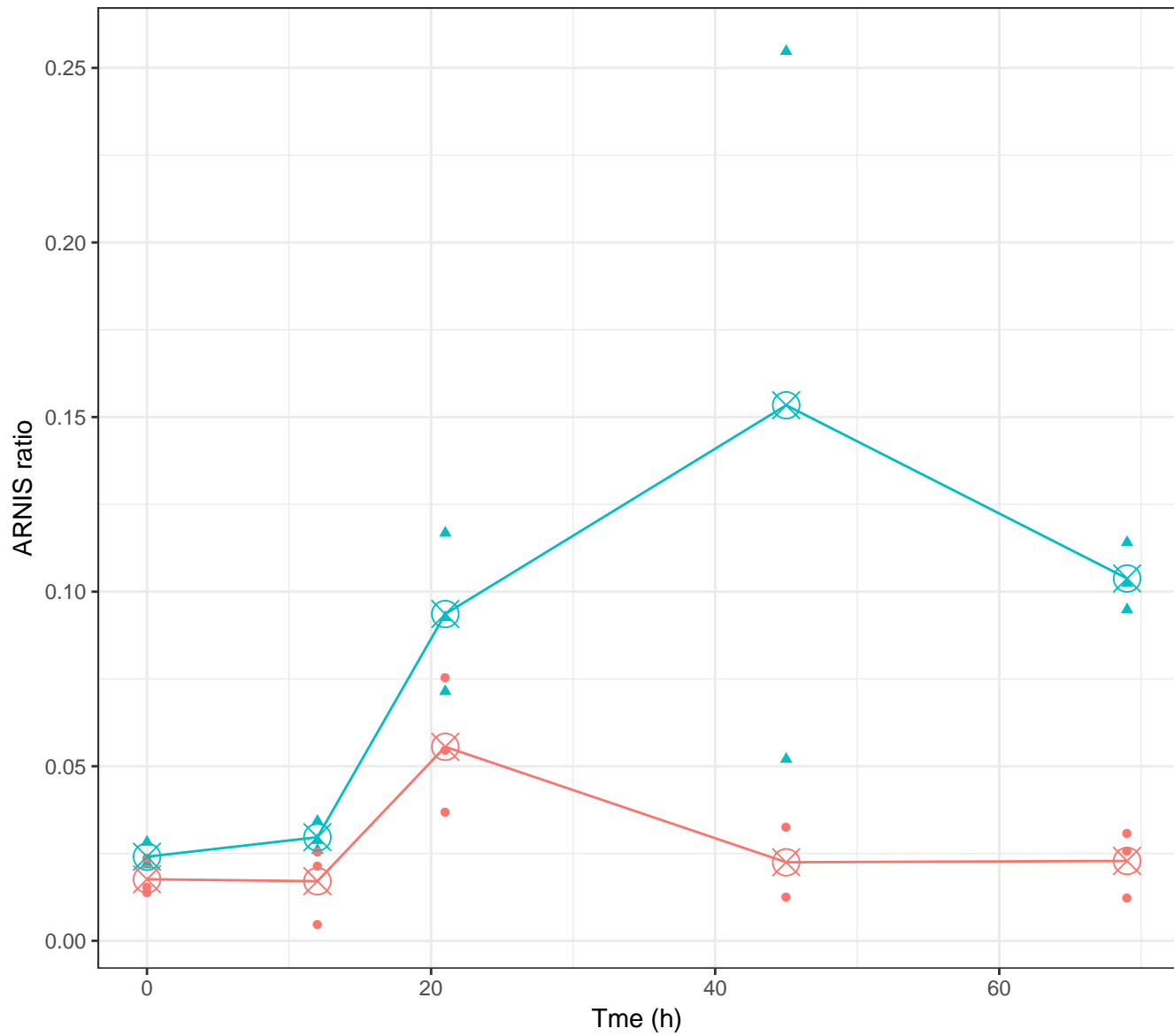
OTU.206_Actinobacteria_Candidatus_Aquiluna

Treatment ⊗ Control ⊗ Filtered-1micron



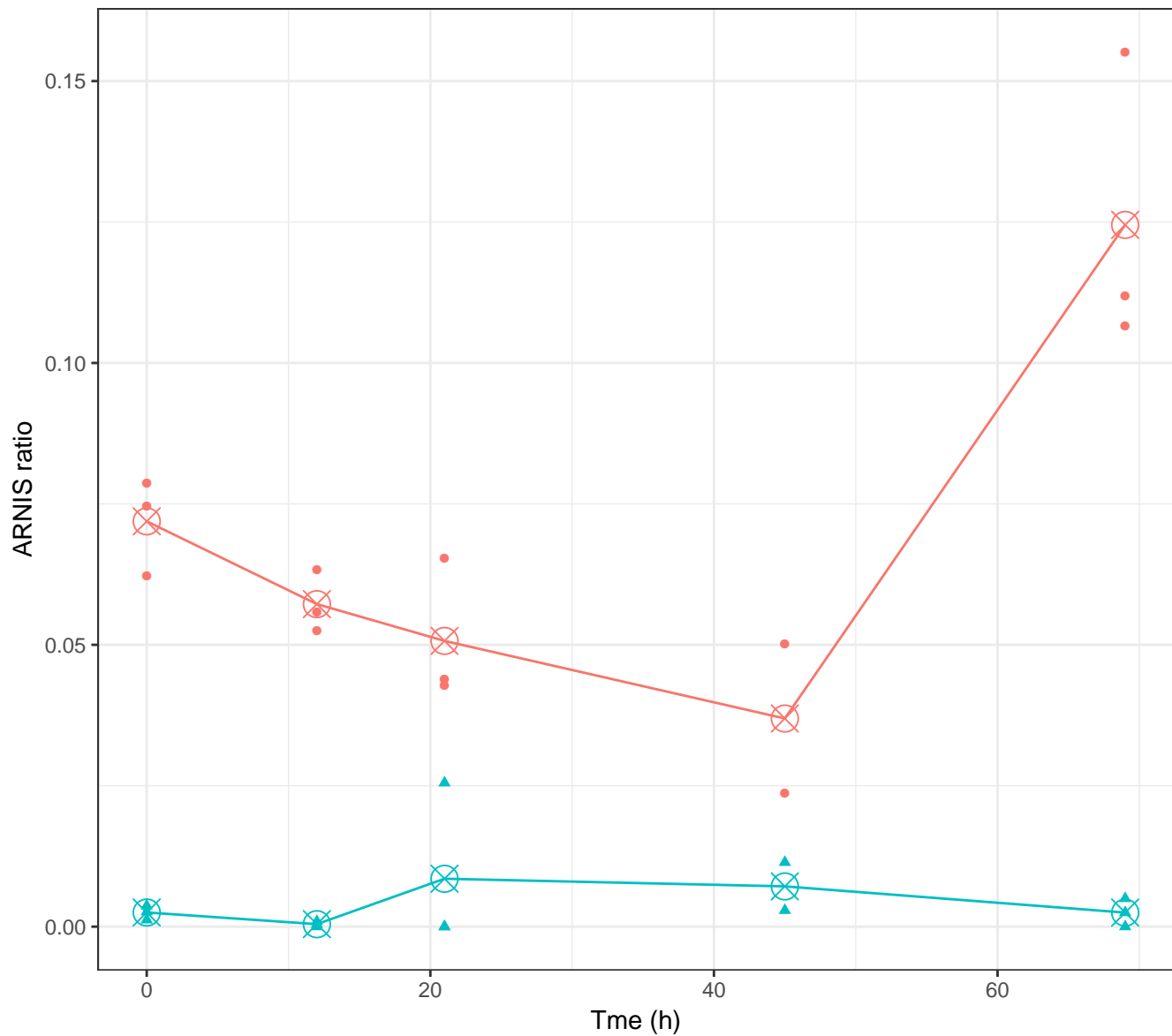
OTU.3957_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



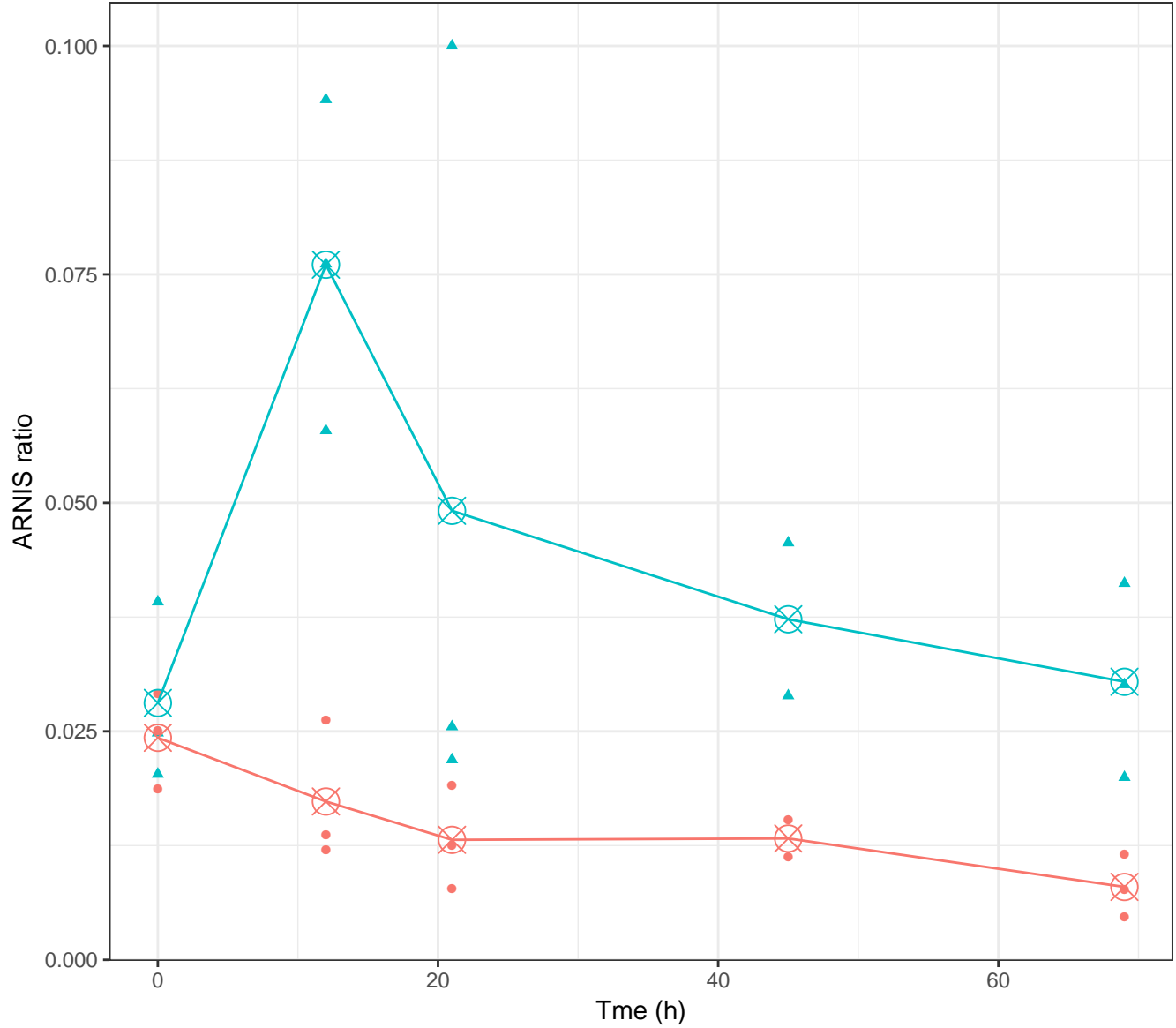
OTU.183_Verrucomicrobia_Verrucomicrobiaceae

Treatment Control Filtered-1micron



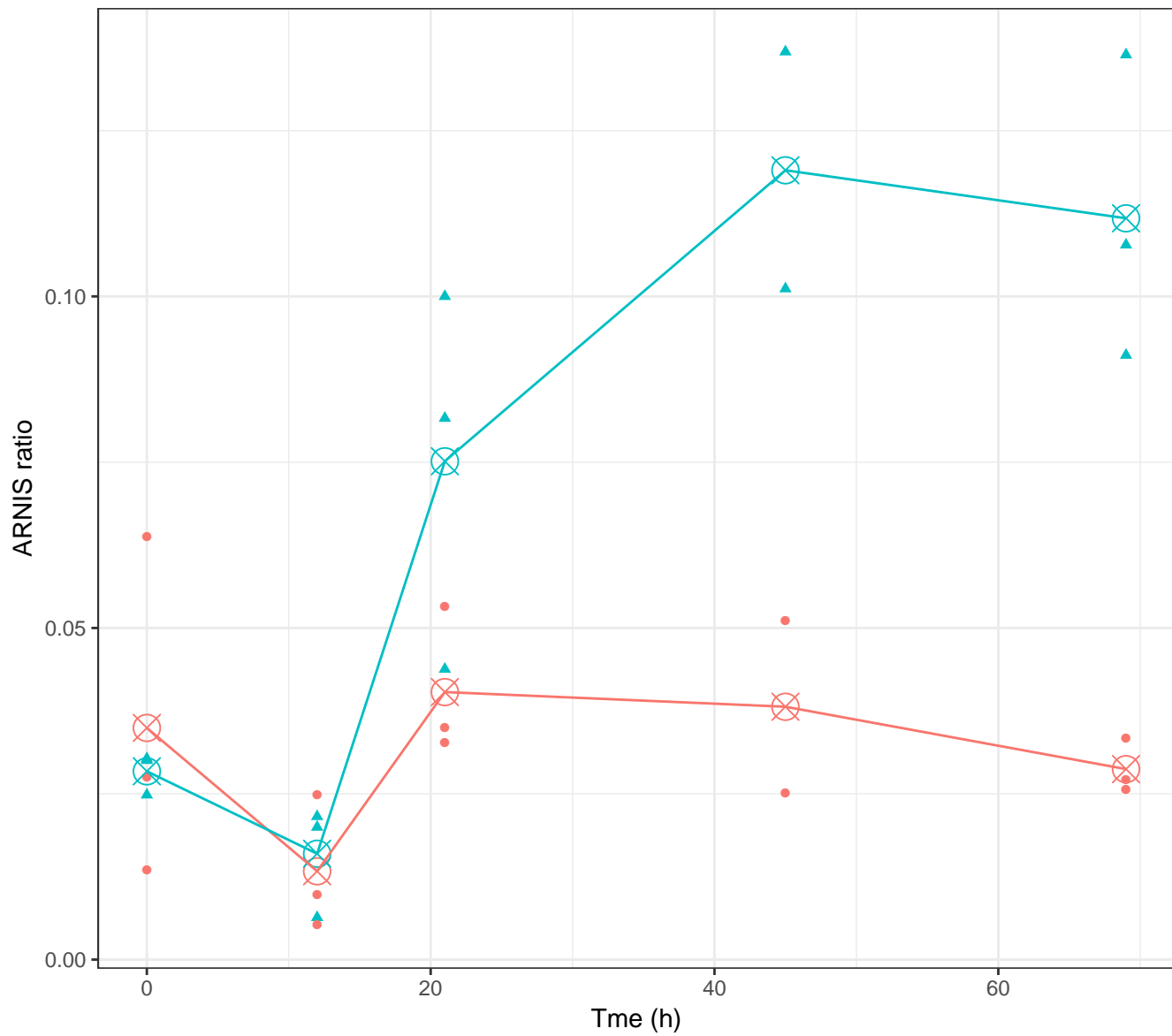
OTU.45_Alphaproteobacteria_SAR11clade_LD12_freshwater_rgroup

Treatment ⊗ Control ⊗ Filtered-1micron



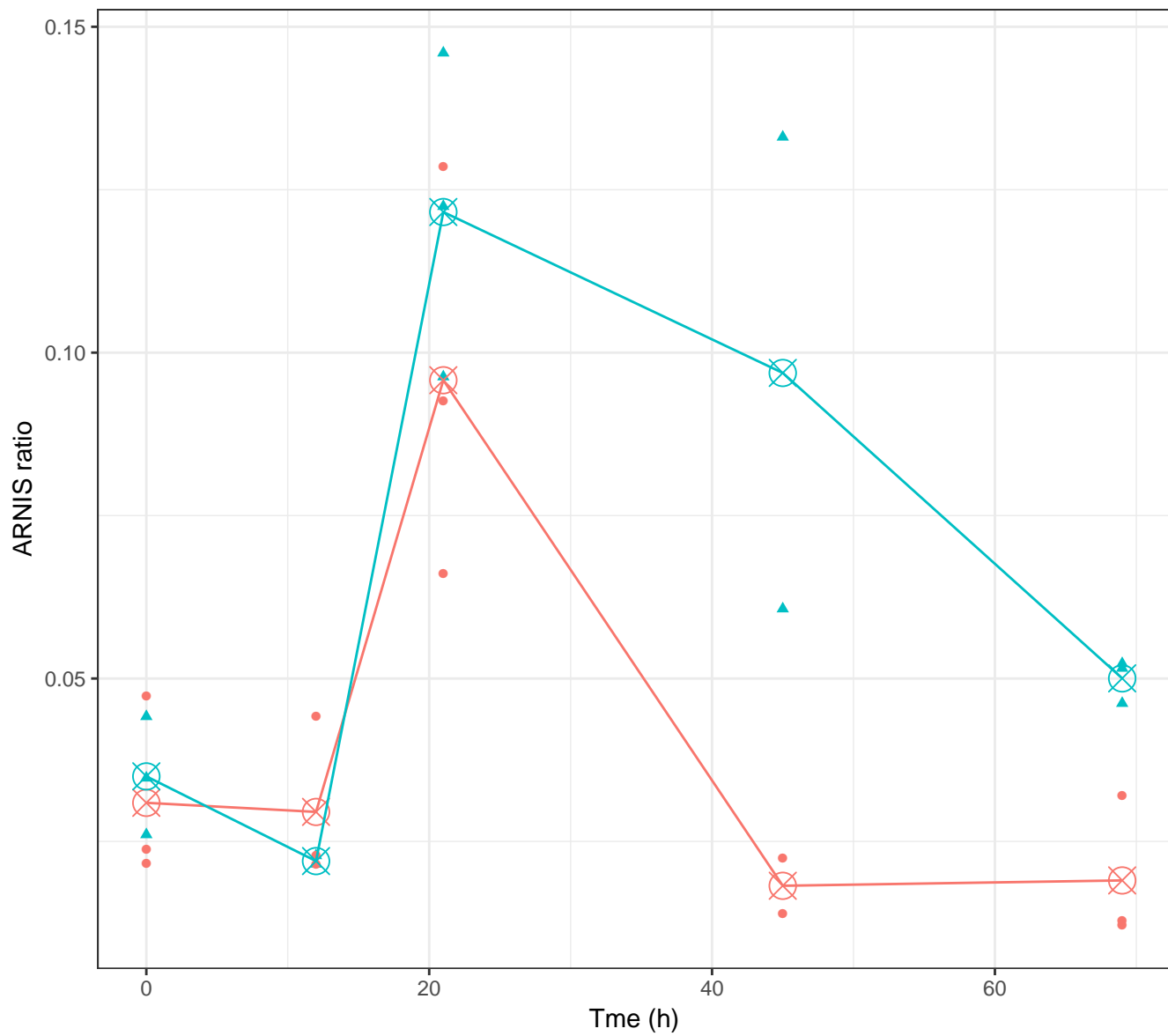
OTU.193_Verrucomicrobia_Opitutus

Treatment Control Filtered-1micron





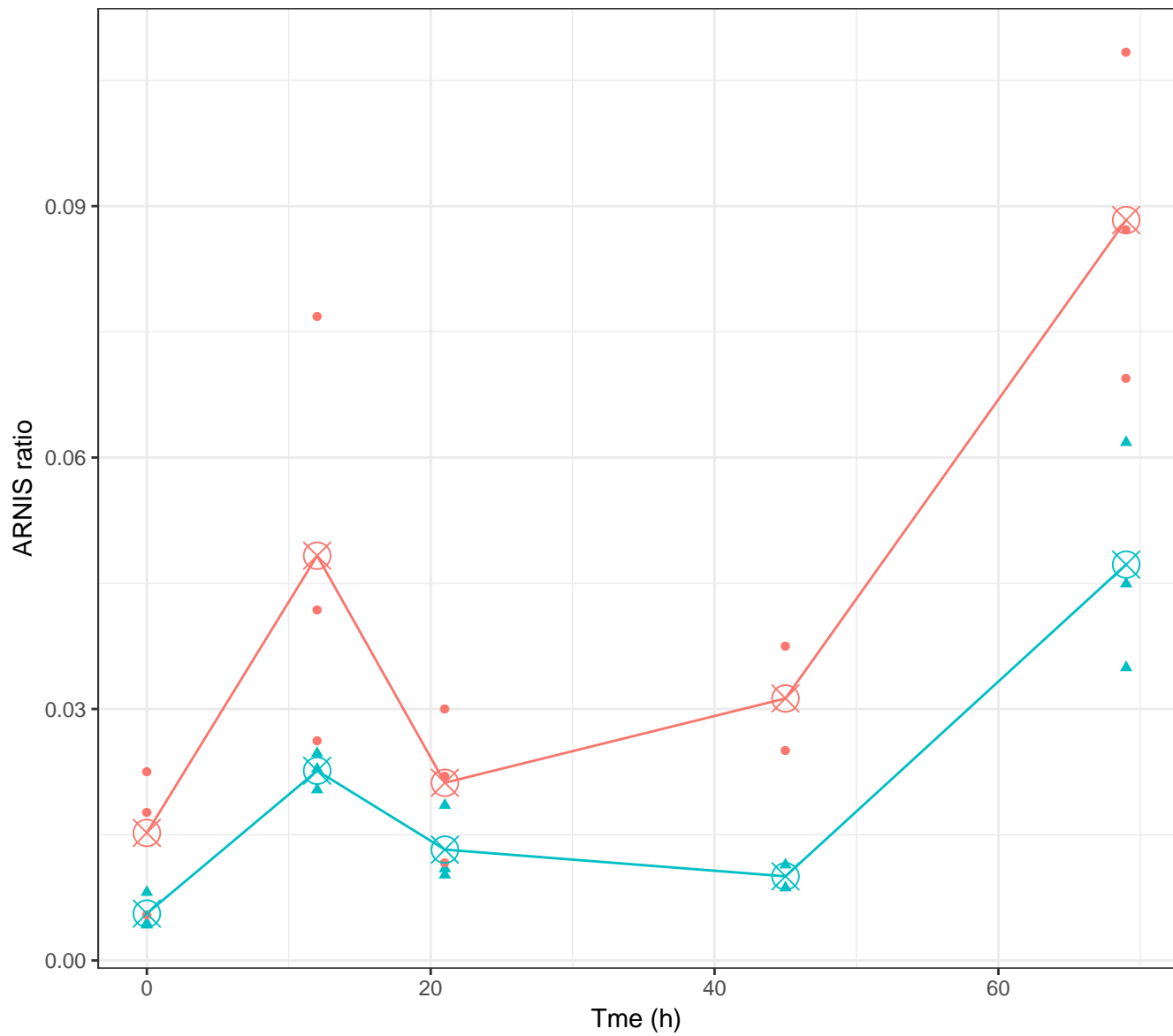
OTU.117_Bacteroidetes_Pedobacter

Treatment Control Filtered-1micron



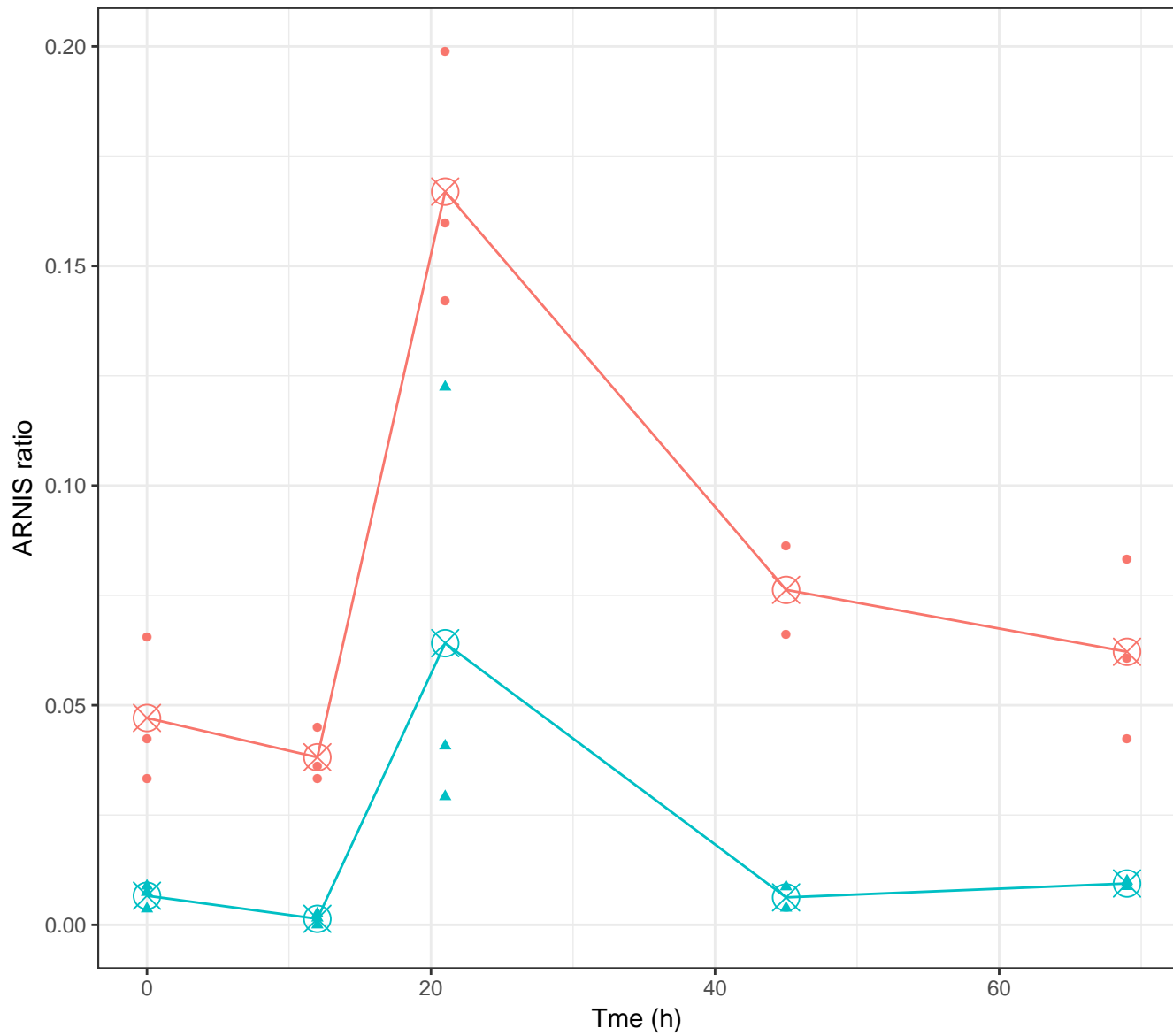
OTU.216_Alphaproteobacteria_Roseomonas

Treatment  Control  Filtered-1micron



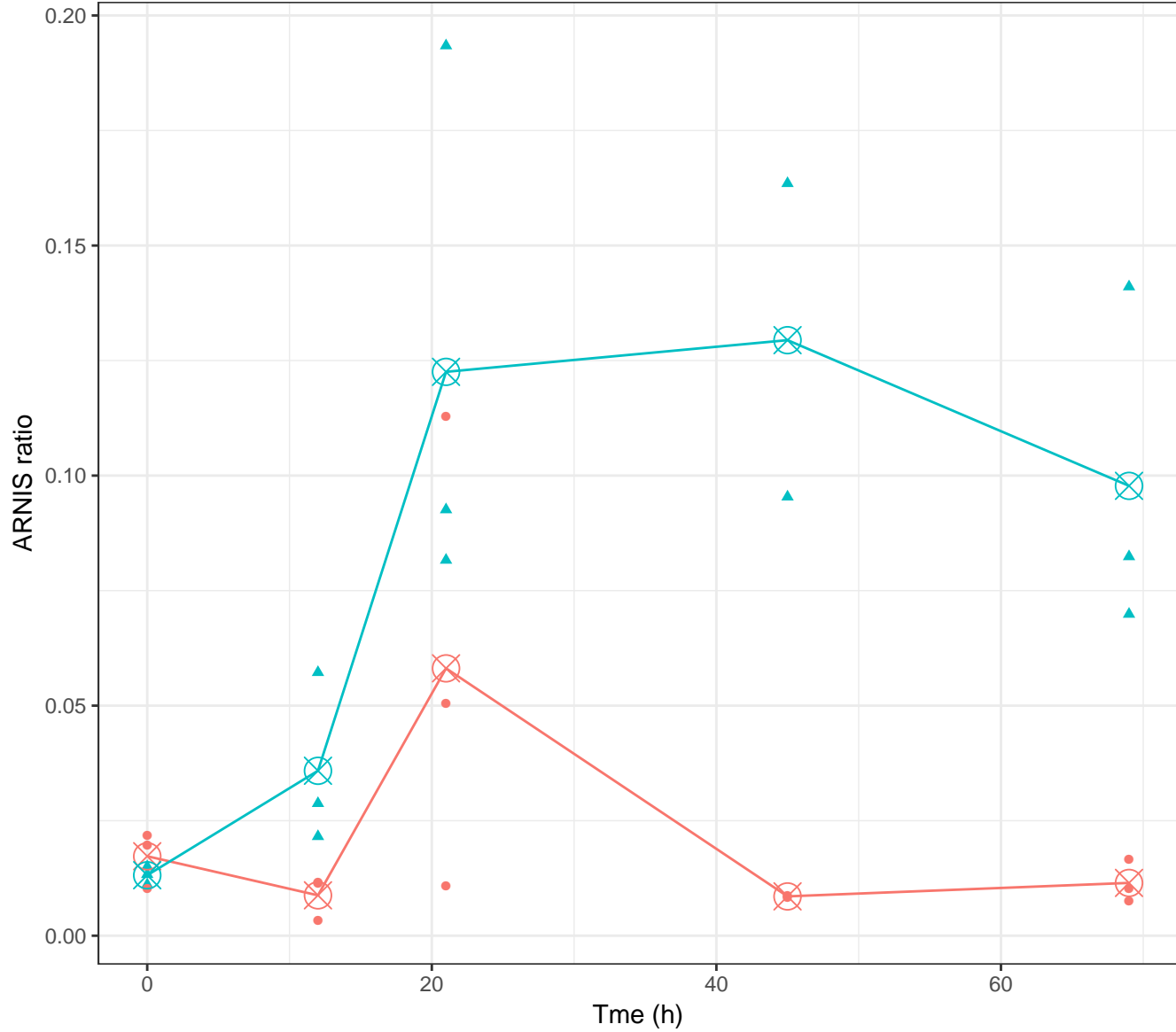
OTU.177_Planctomycetes_Pirellula

Treatment Control Filtered-1micron





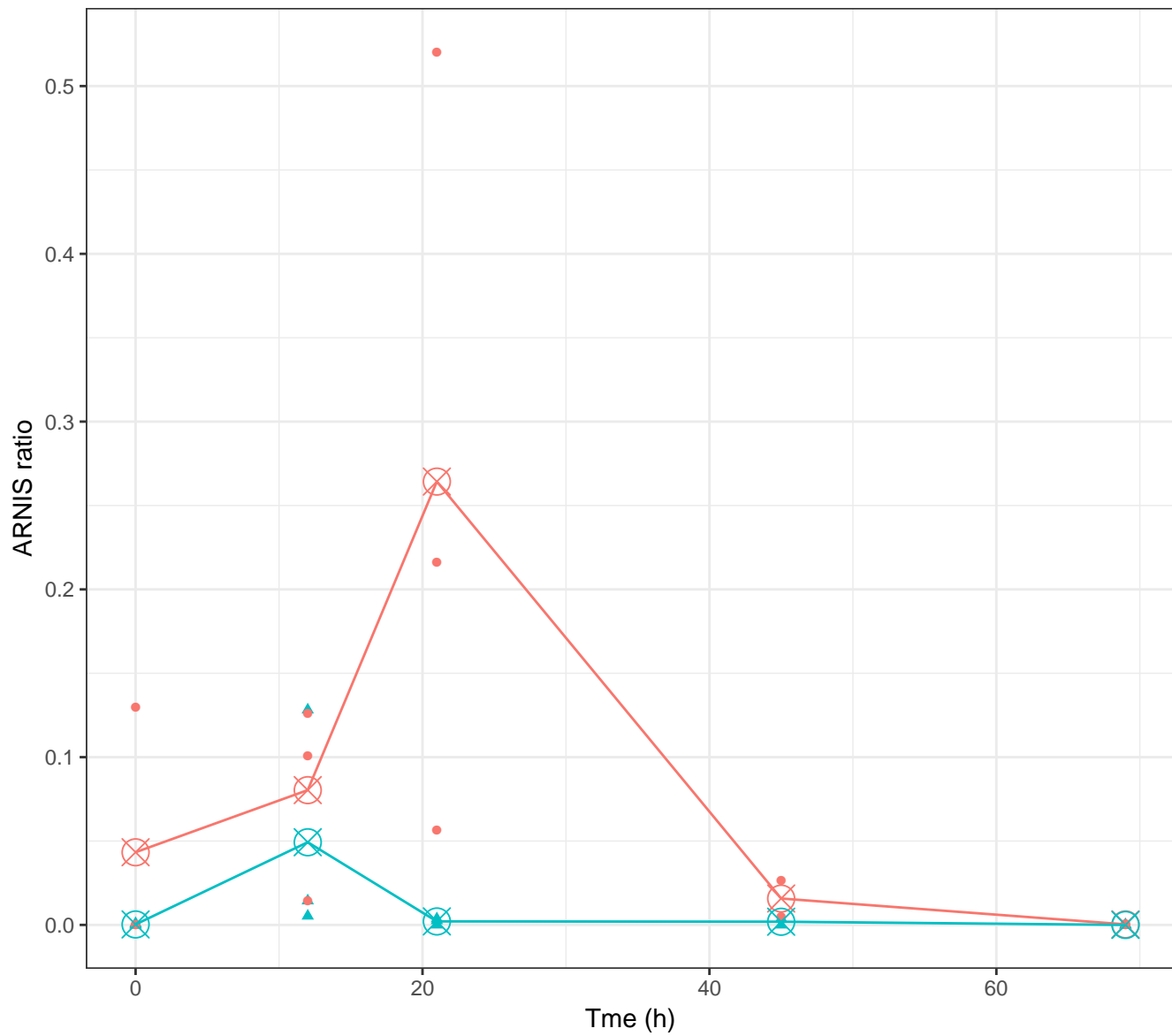
OTU.1270_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron



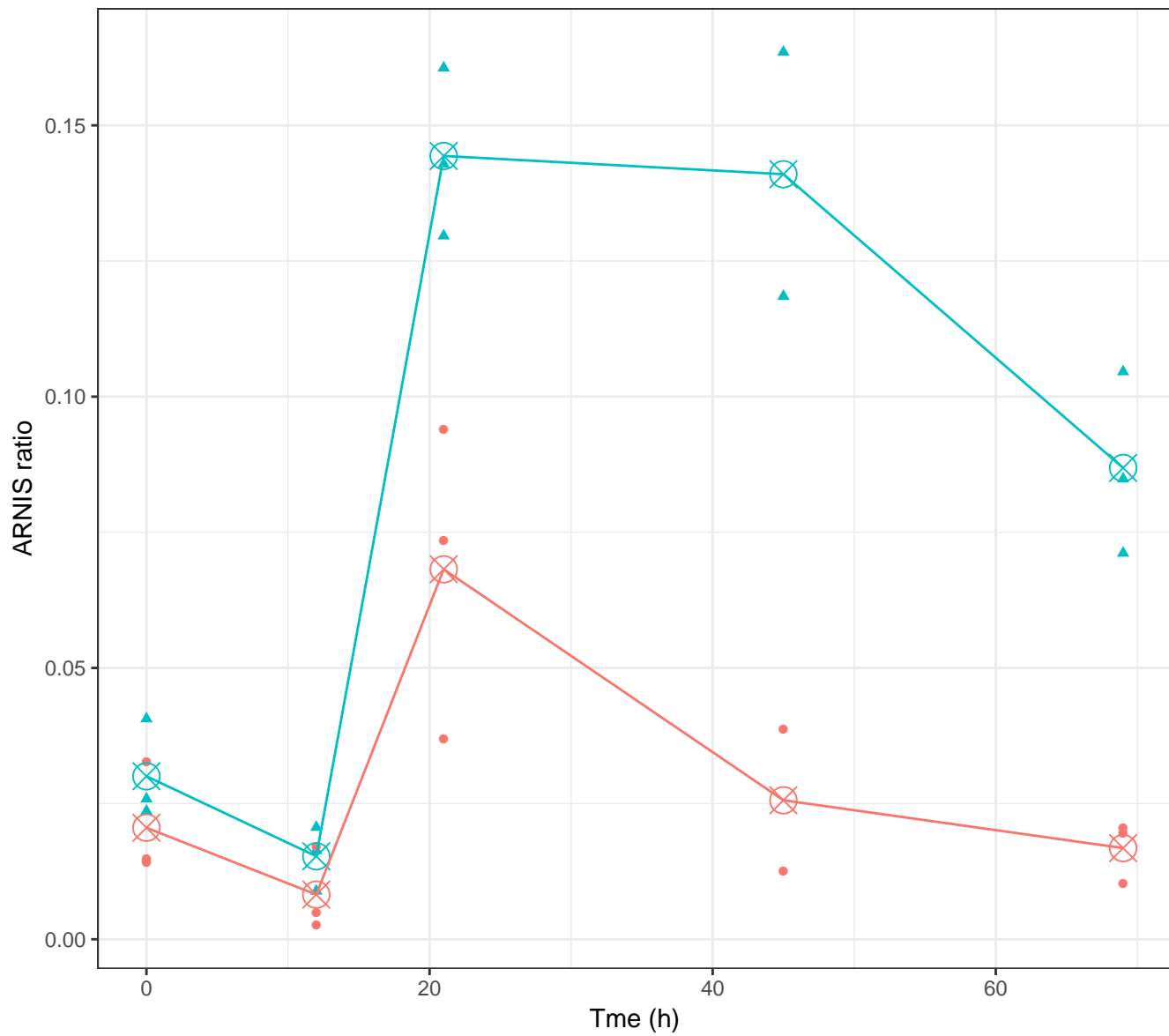
OTU.178_Actinobacteria_Propionibacterium

Treatment  Control  Filtered-1micron



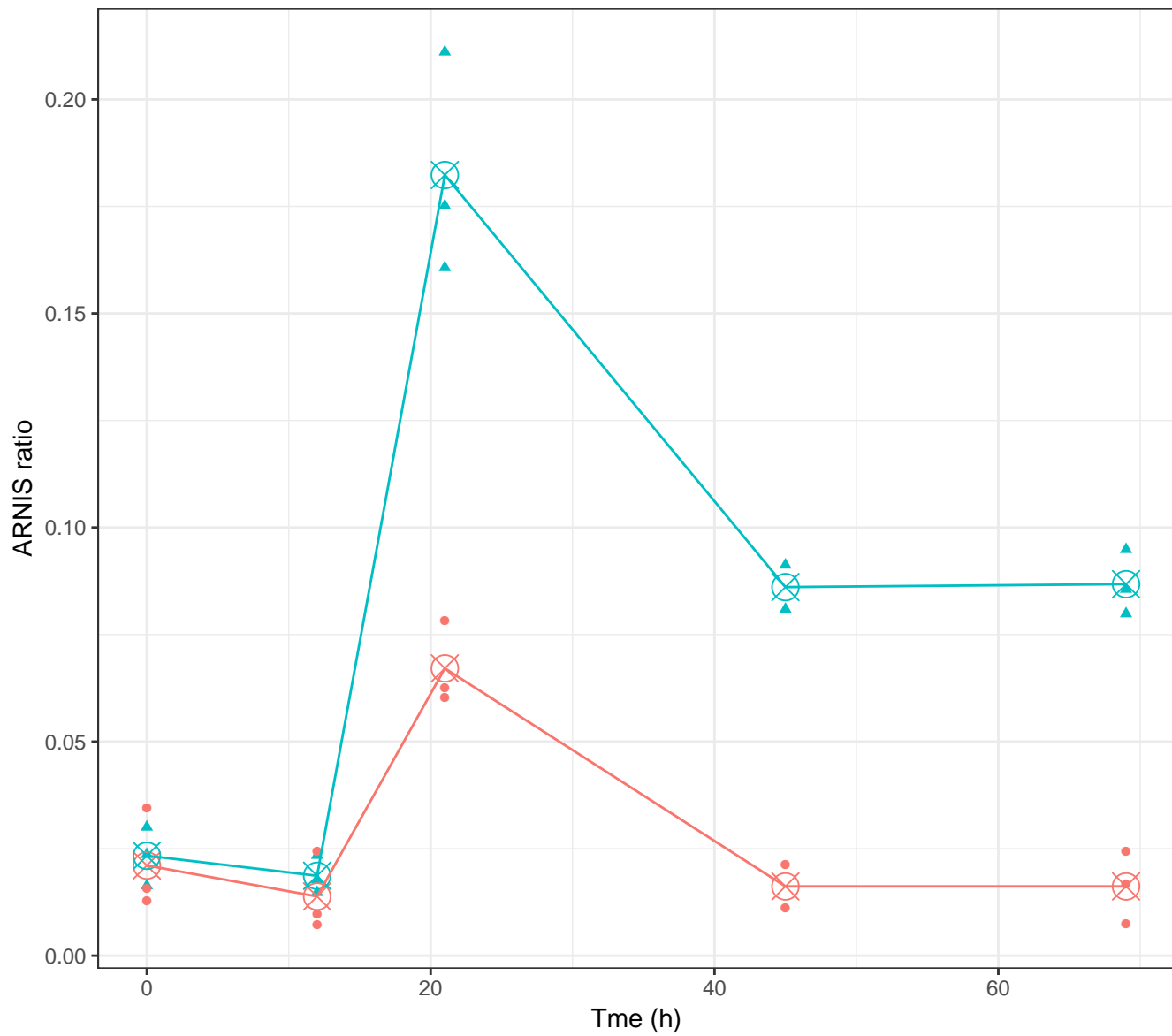
OTU.11_Bacteroidetes_Pseudarcicella

Treatment ⊗ Control ⊗ Filtered-1micron



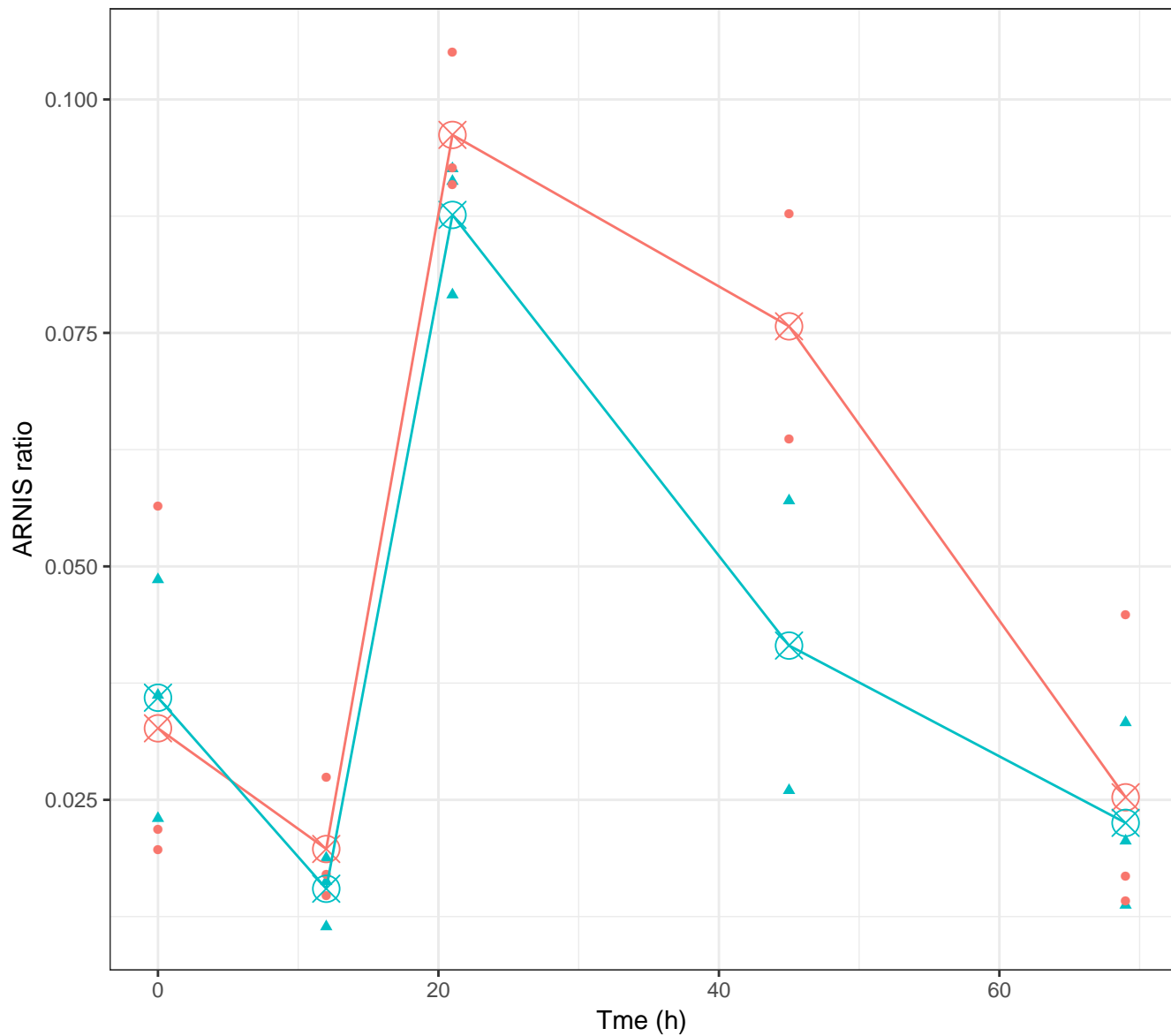
OTU.176_Bacteroidetes_Saprospiracea

Treatment Control Filtered-1micron



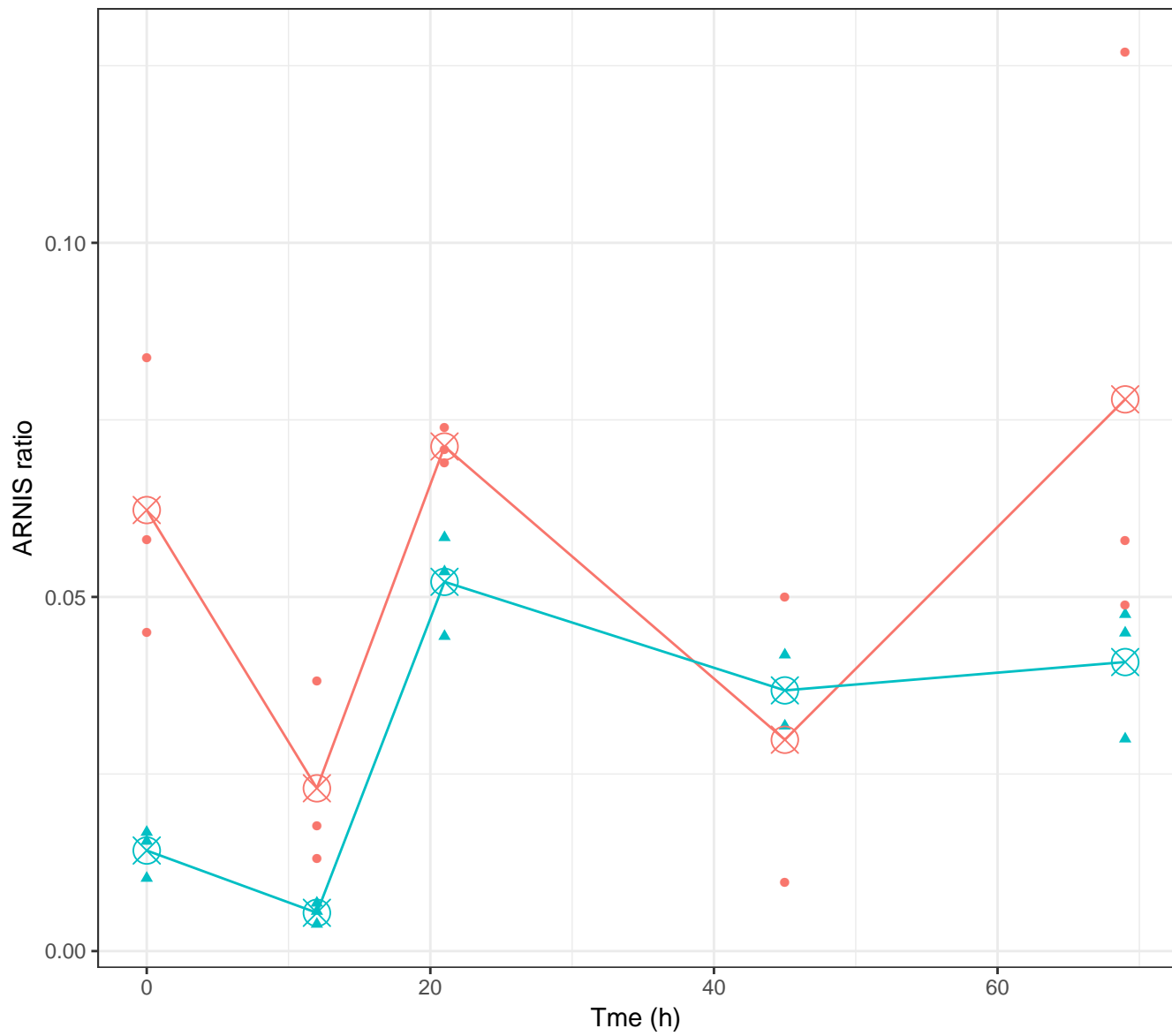
OTU.180_Bacteroidetes_Flavobacterium

Treatment ⊗ Control ⊗ Filtered-1micron

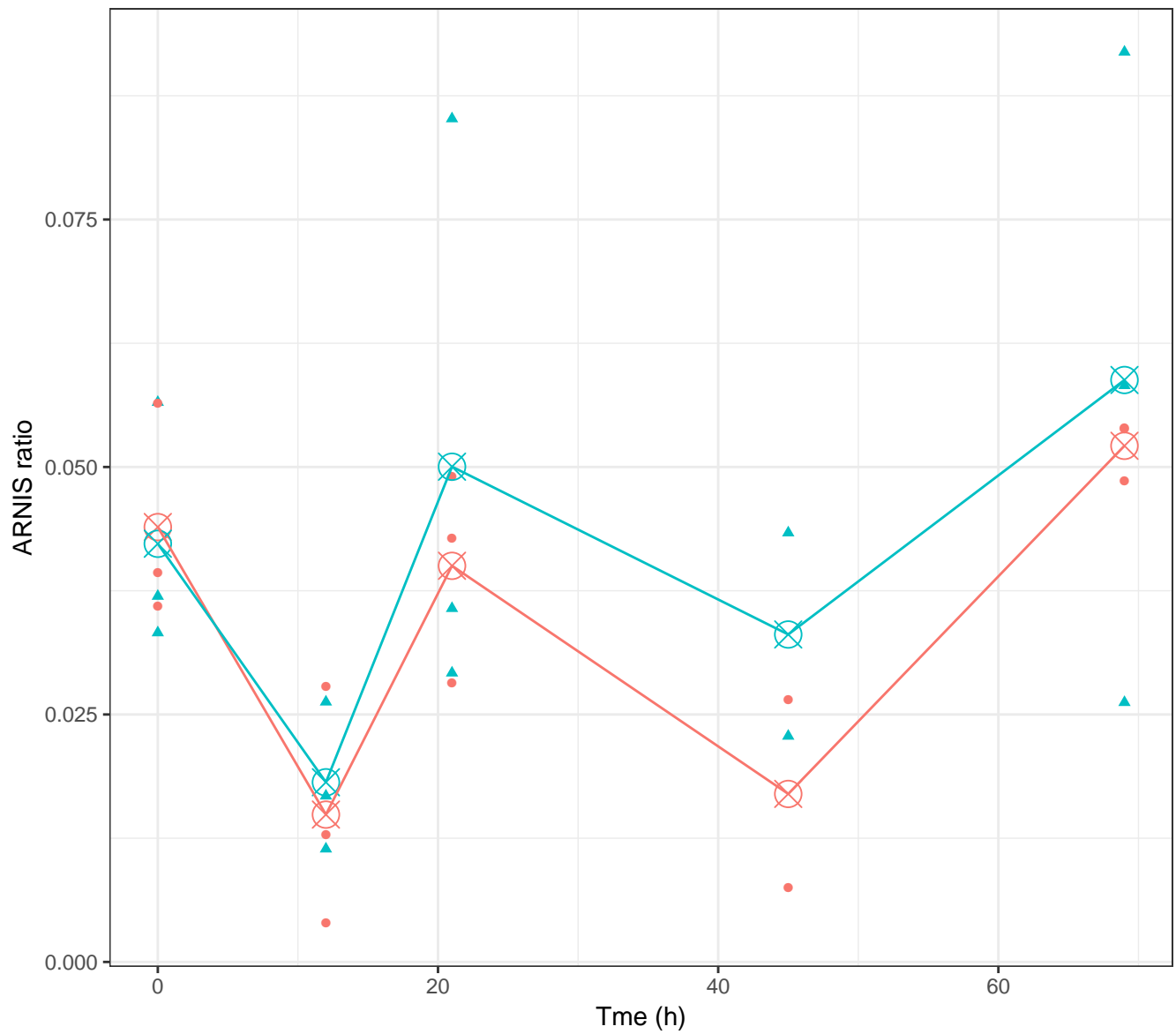


OTU.179_Bacteroidetes_Cytophagaceae

Treatment Control Filtered-1micron

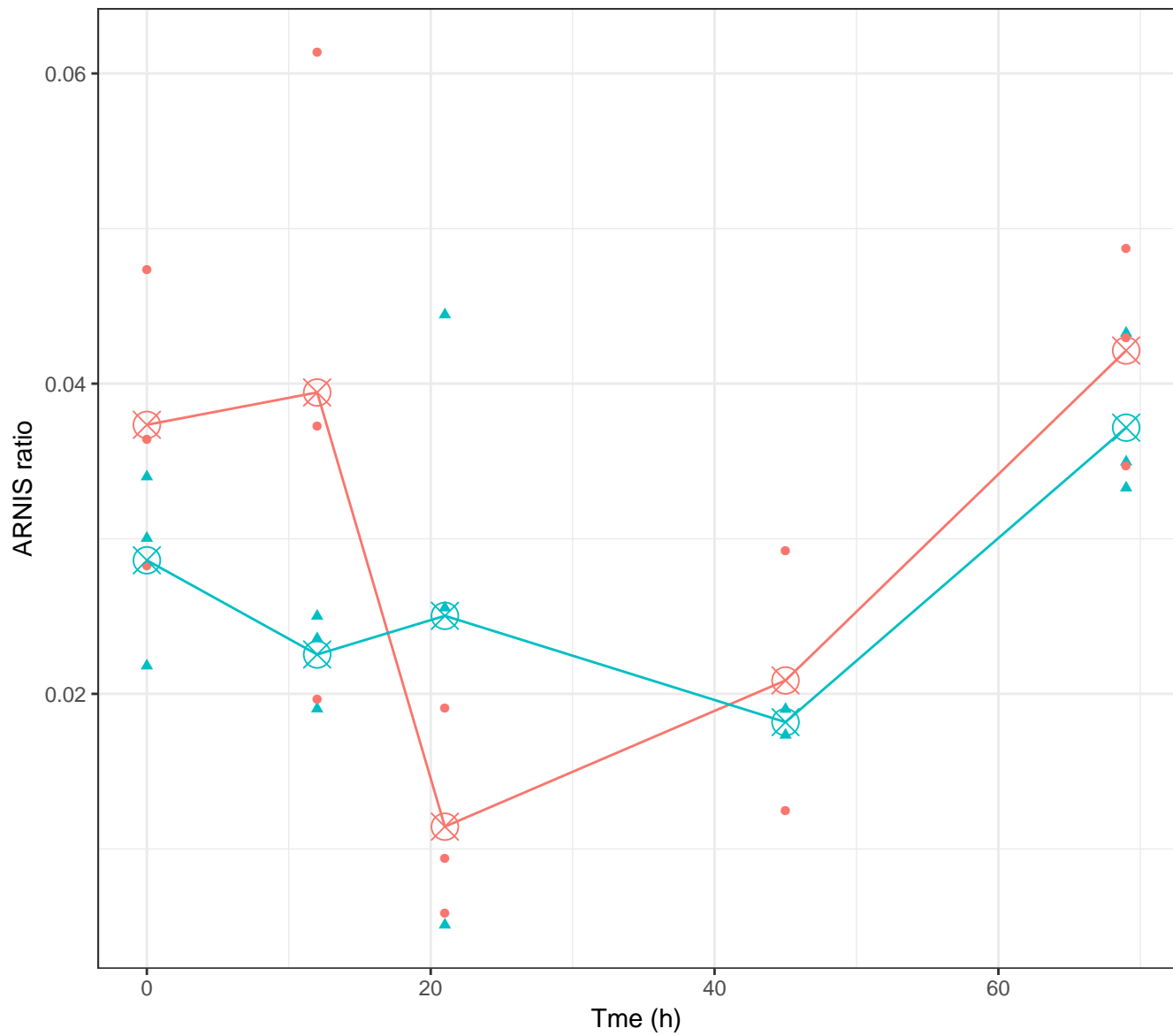


Treatment Control Filtered-1micron



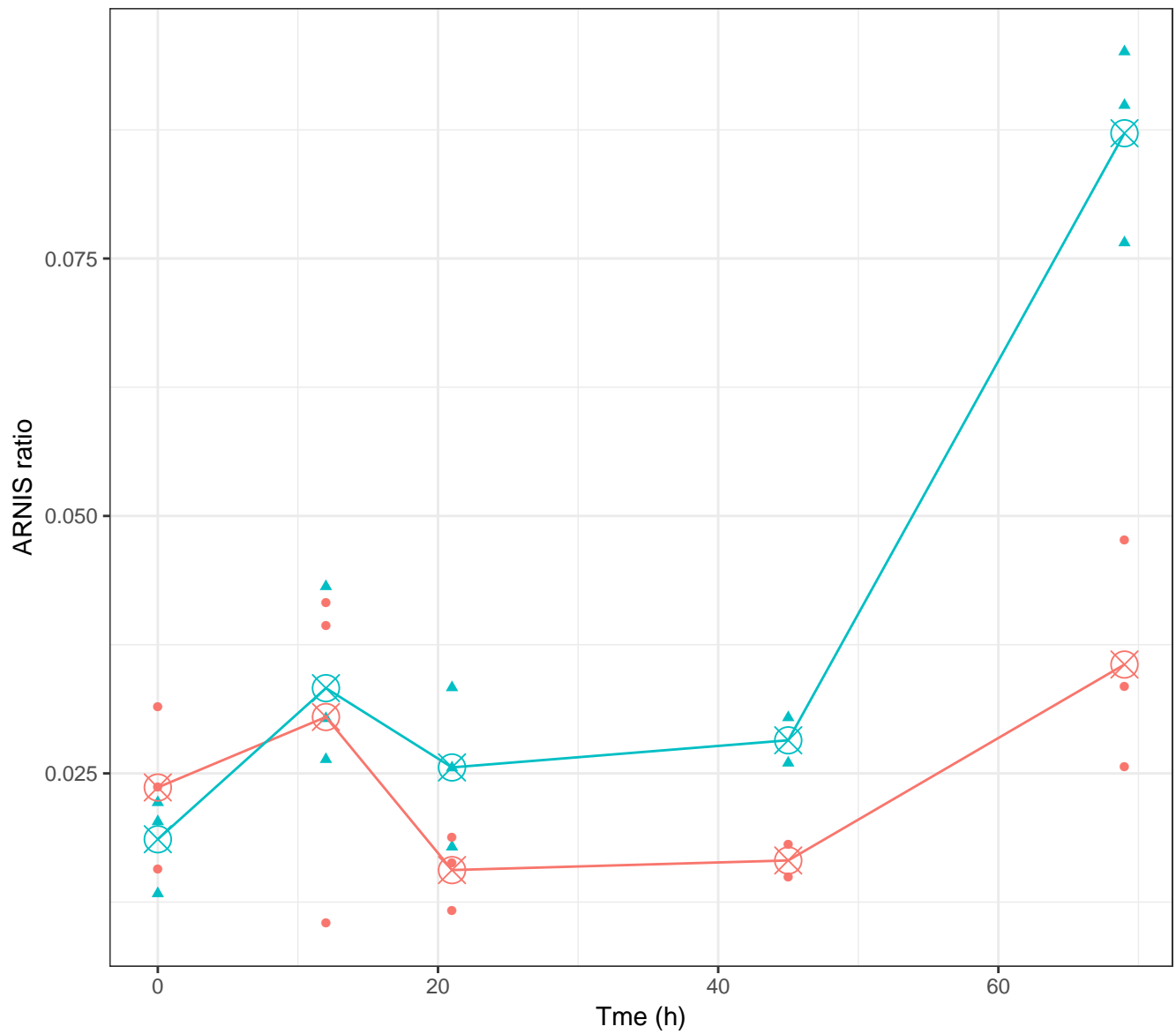
OTU.6322_Actinobacteria_CL500.29_marine_group.freshwater_actIV.C_clade

Treatment Control Filtered-1micron



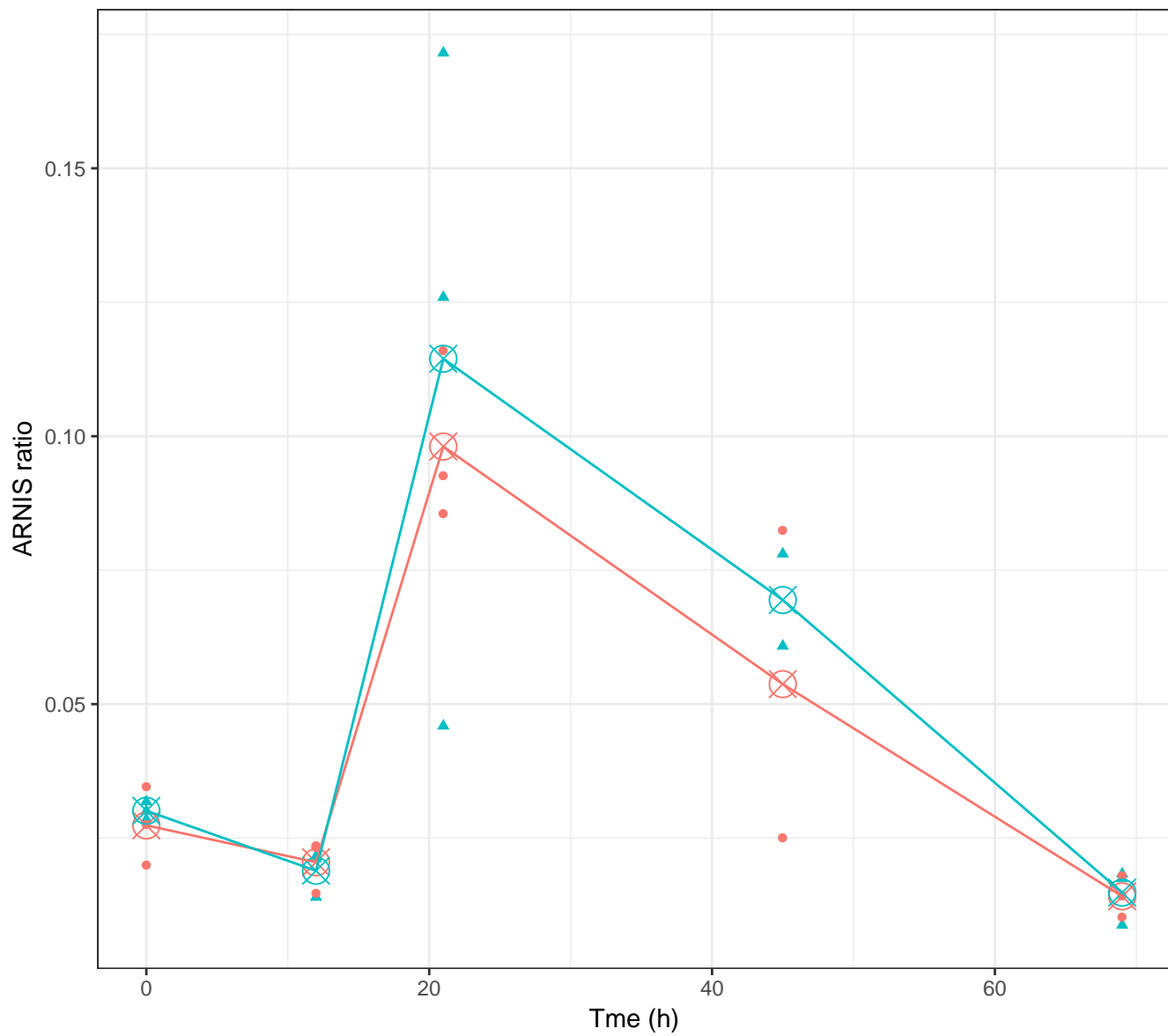


OTU.284_Alphaproteobacteria_Roseomonas



Treatment ⊗ Control ⊗ Filtered-1micron

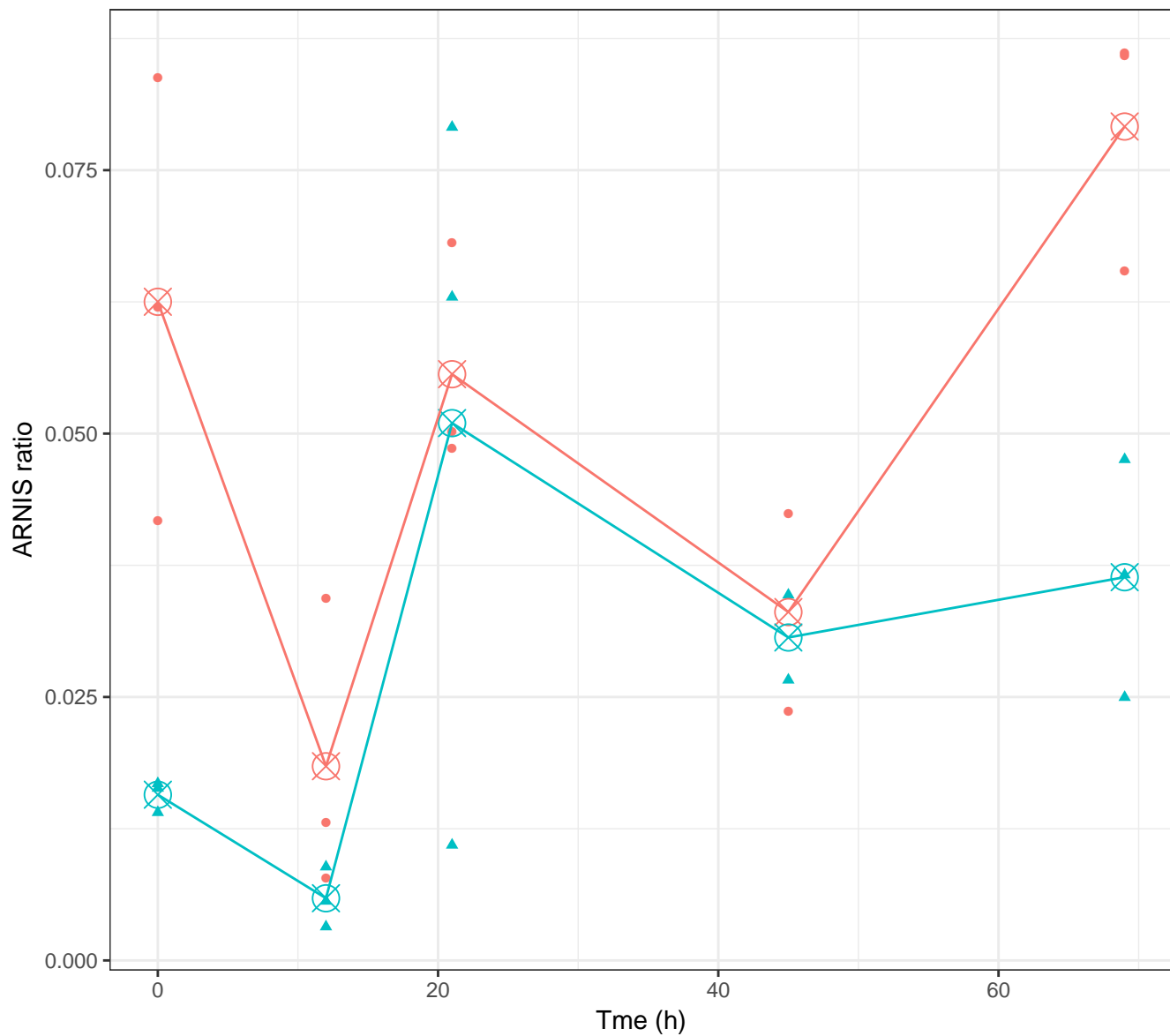


OTU.191_TM6

Treatment  Control  Filtered-1micron

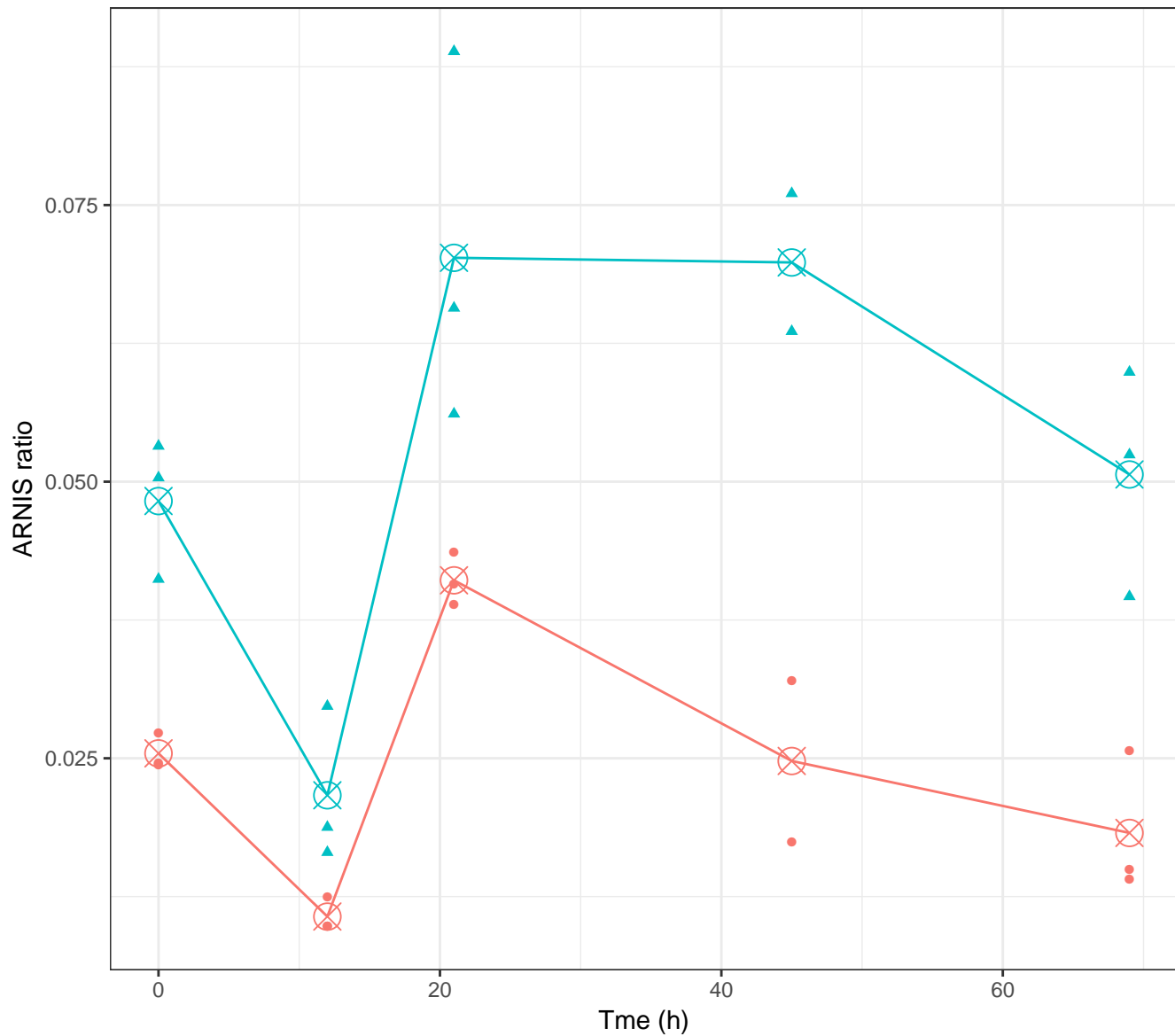
OTU.733_Verrucomicrobia_Prostheco bacter

Treatment  Control  Filtered-1micron



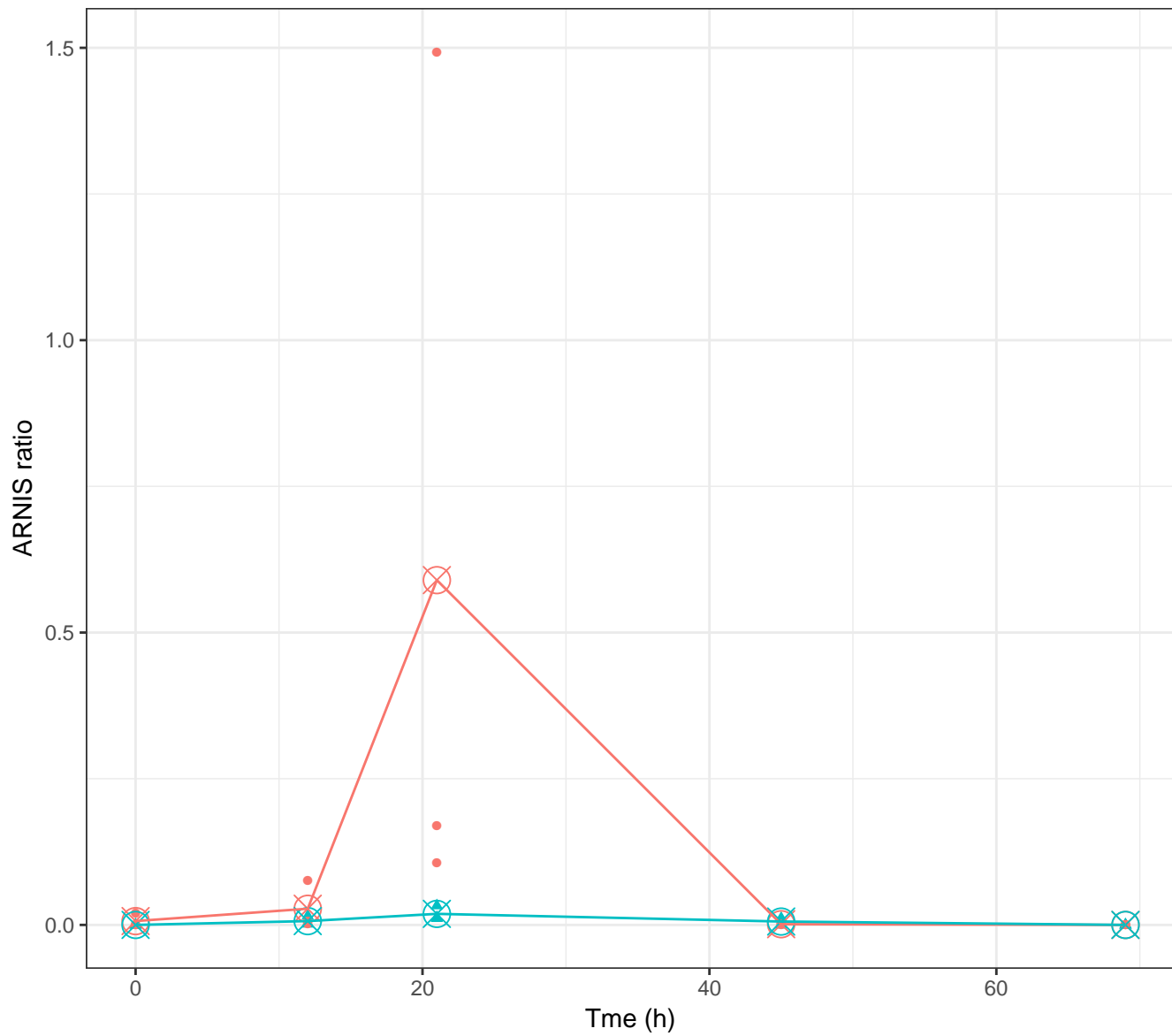
OTU.184_Bacteroidetes_NS11.12_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron



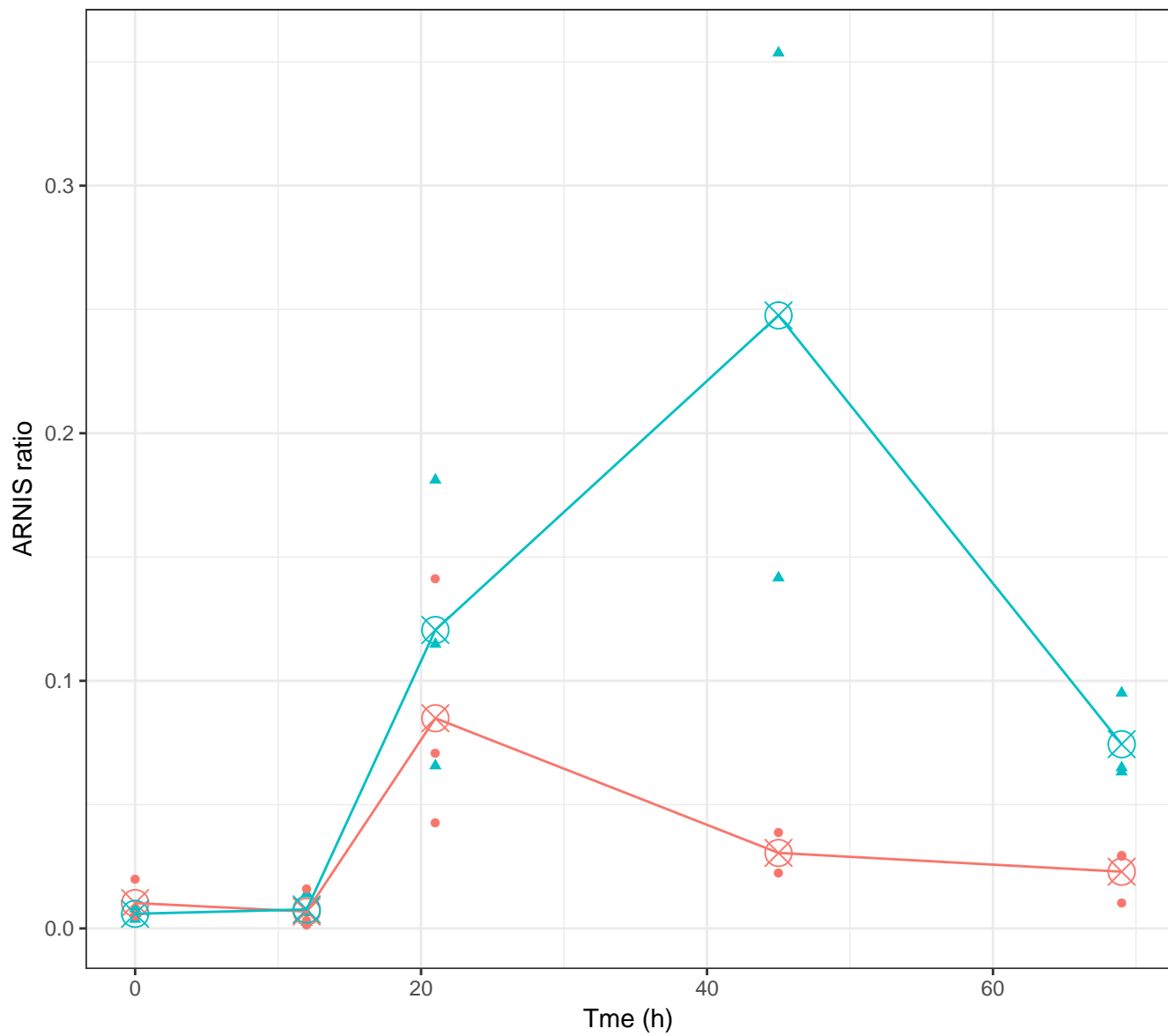


OTU.248_Alphaproteobacteria_Rhodobaca

Treatment Control Filtered-1micron

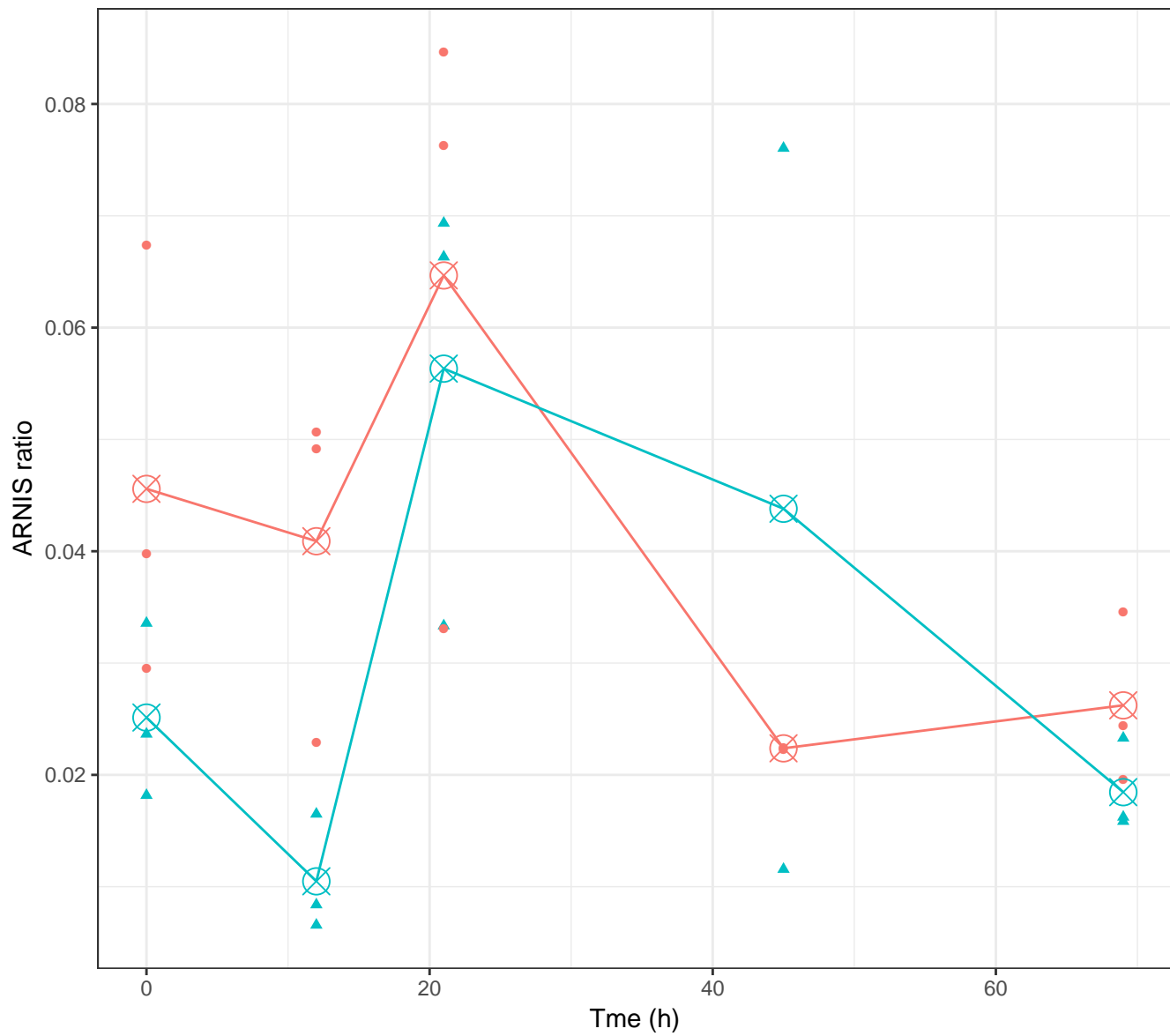


OTU.197_Bacteroidetes_Emticia

Treatment  Control  Filtered-1micron

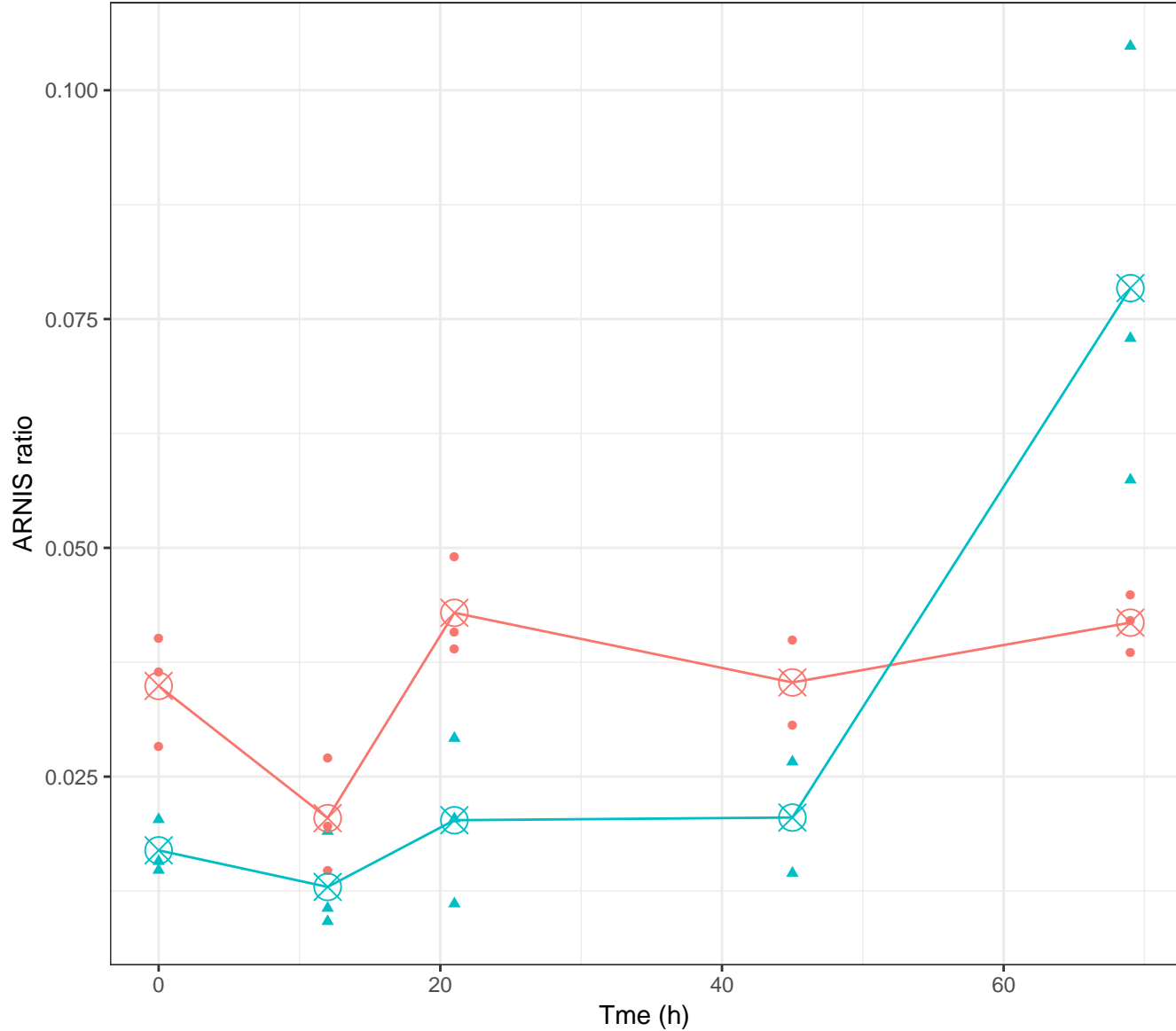
OTU.194_Chlorobi_OPB56

Treatment ⊗ Control ⊗ Filtered-1micron



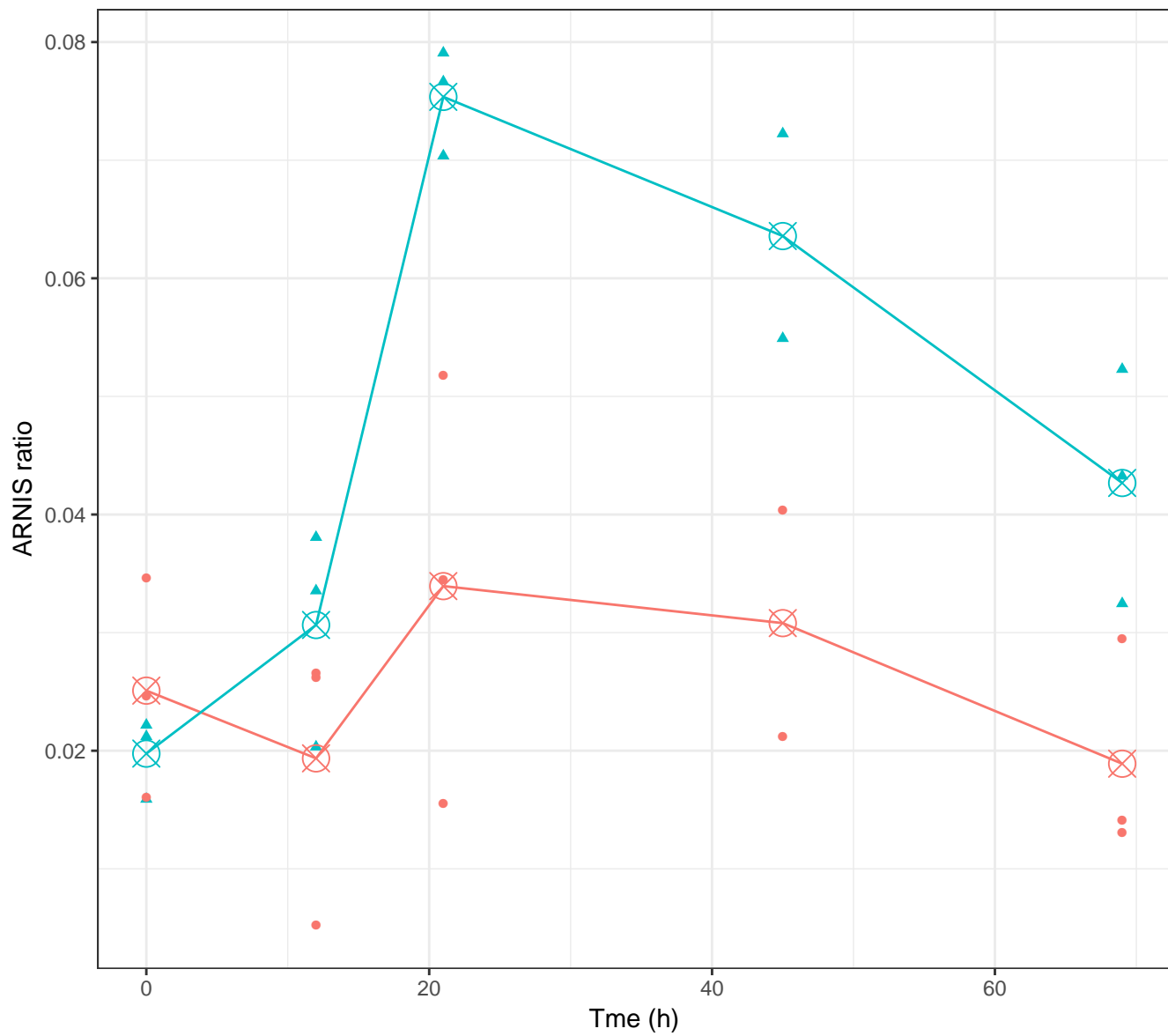
OTU.1749_Verrucomicrobia_OPB35_soil_group

Treatment ⊗ Control ⊗ Filtered-1micron



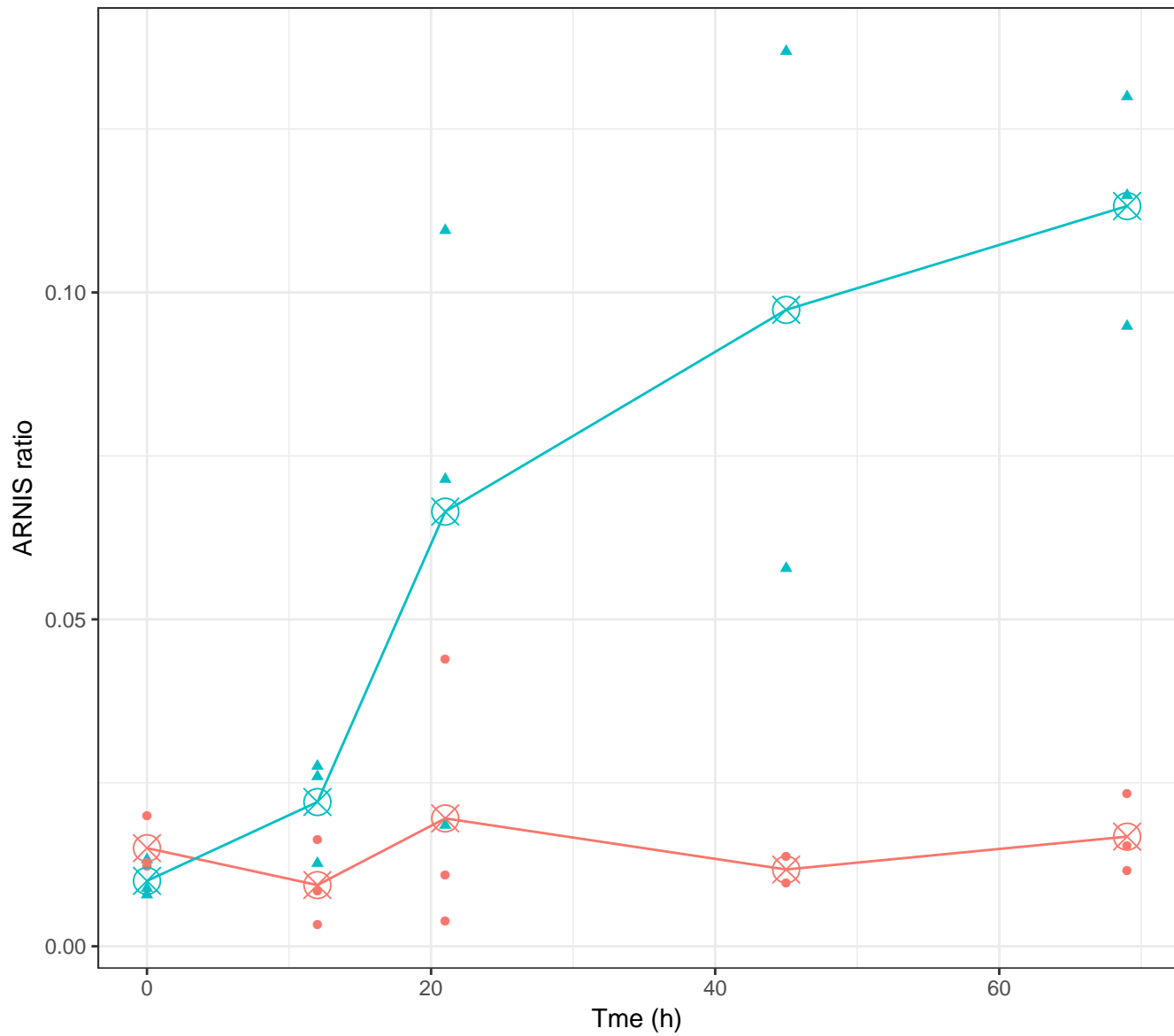
OTU.19_Actinobacteria_clade_acl.B2.4

Treatment ⊗ Control ⊗ Filtered-1micron



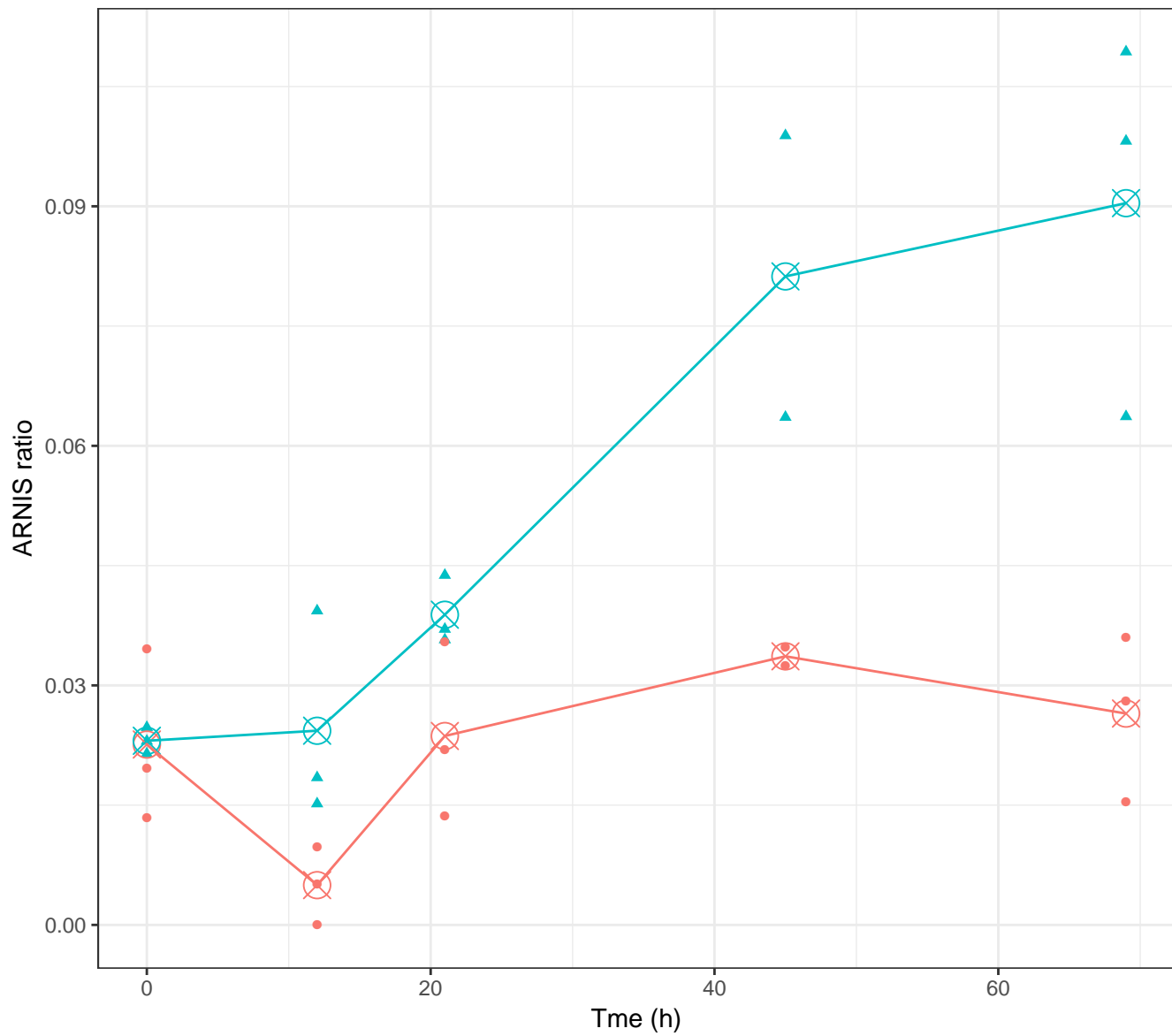
OTU.50_Alphaproteobacteria_Sphingopyxis

Treatment Control Filtered-1micron



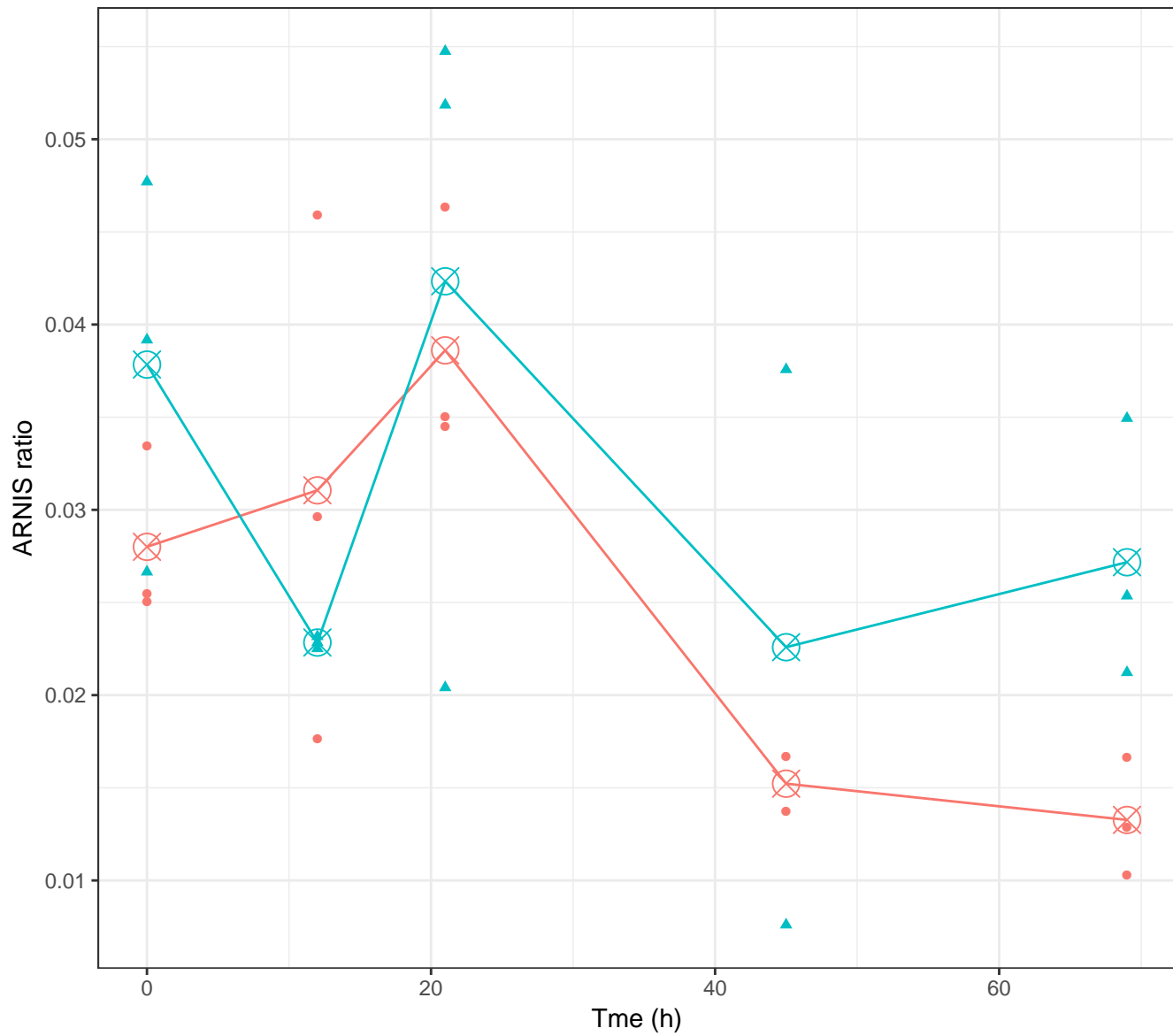
OTU.245_Gammaproteobacteria_Pseudospirillum

Treatment ⊗ Control ⊗ Filtered-1micron



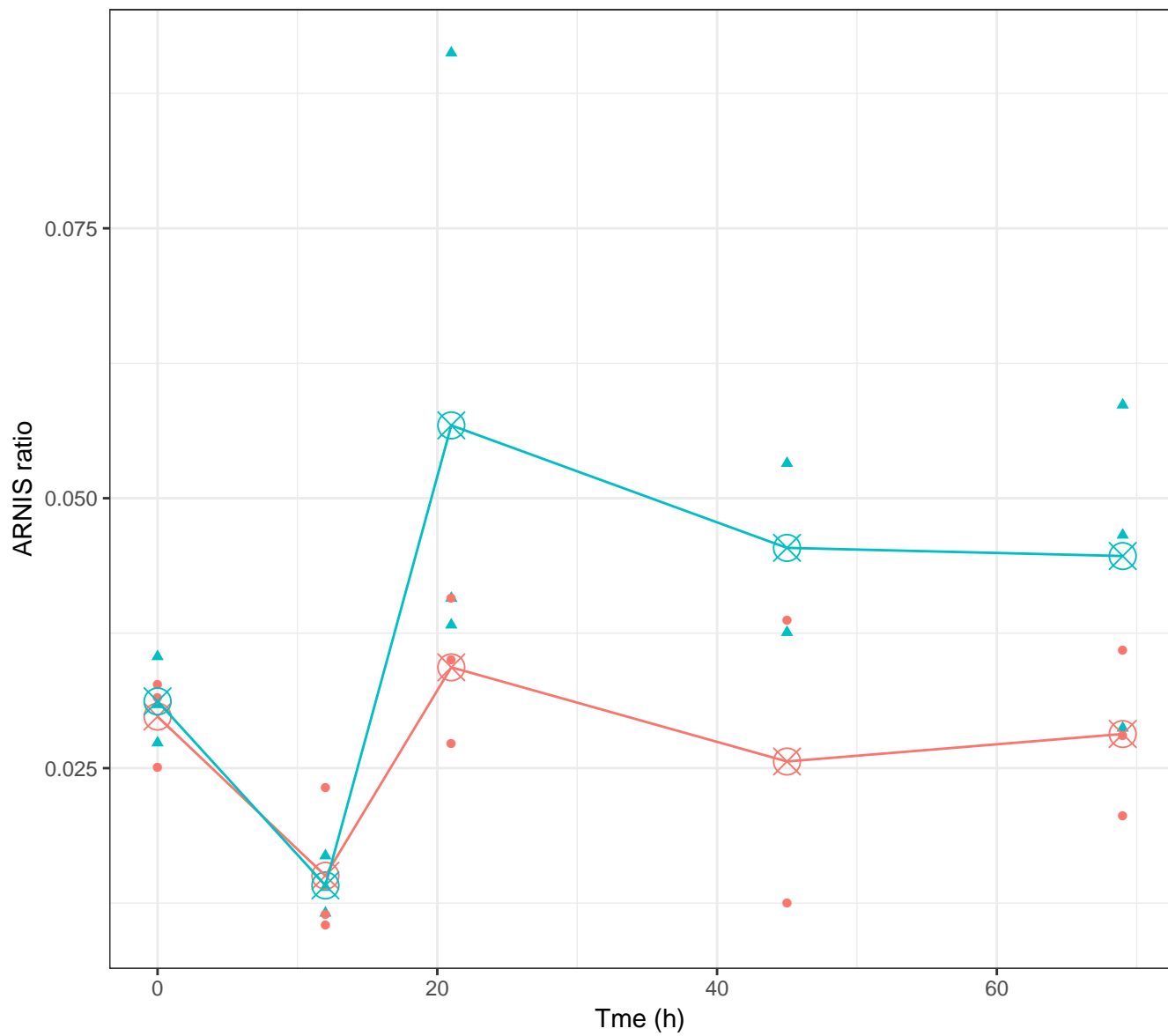
OTU.209_Bacteroidetes_NS11.12_marine_group

Treatment Control Filtered-1micron



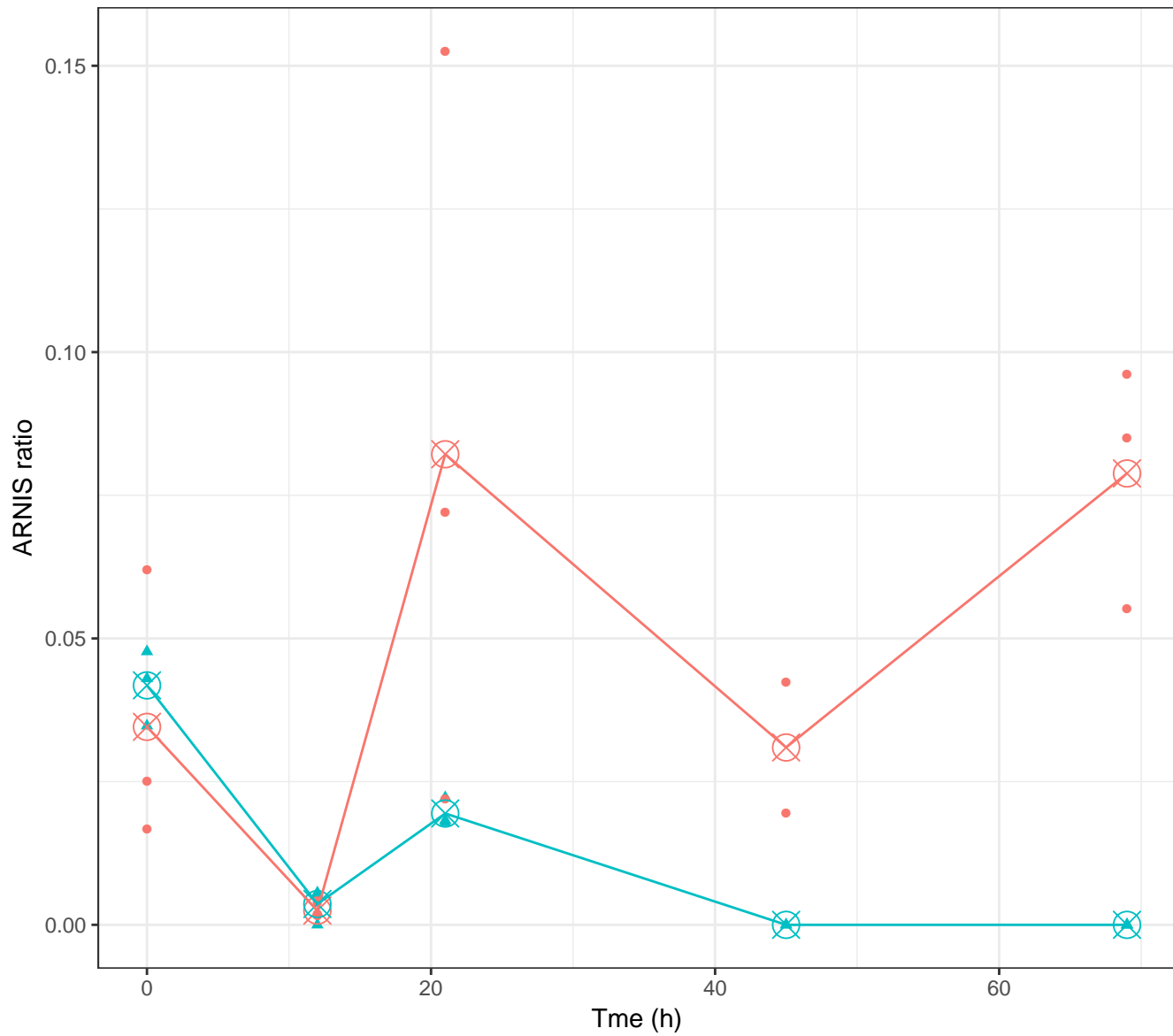
OTU.230_Verrucomicrobia_Brevifollis

Treatment ⊗ Control ⊗ Filtered-1micron



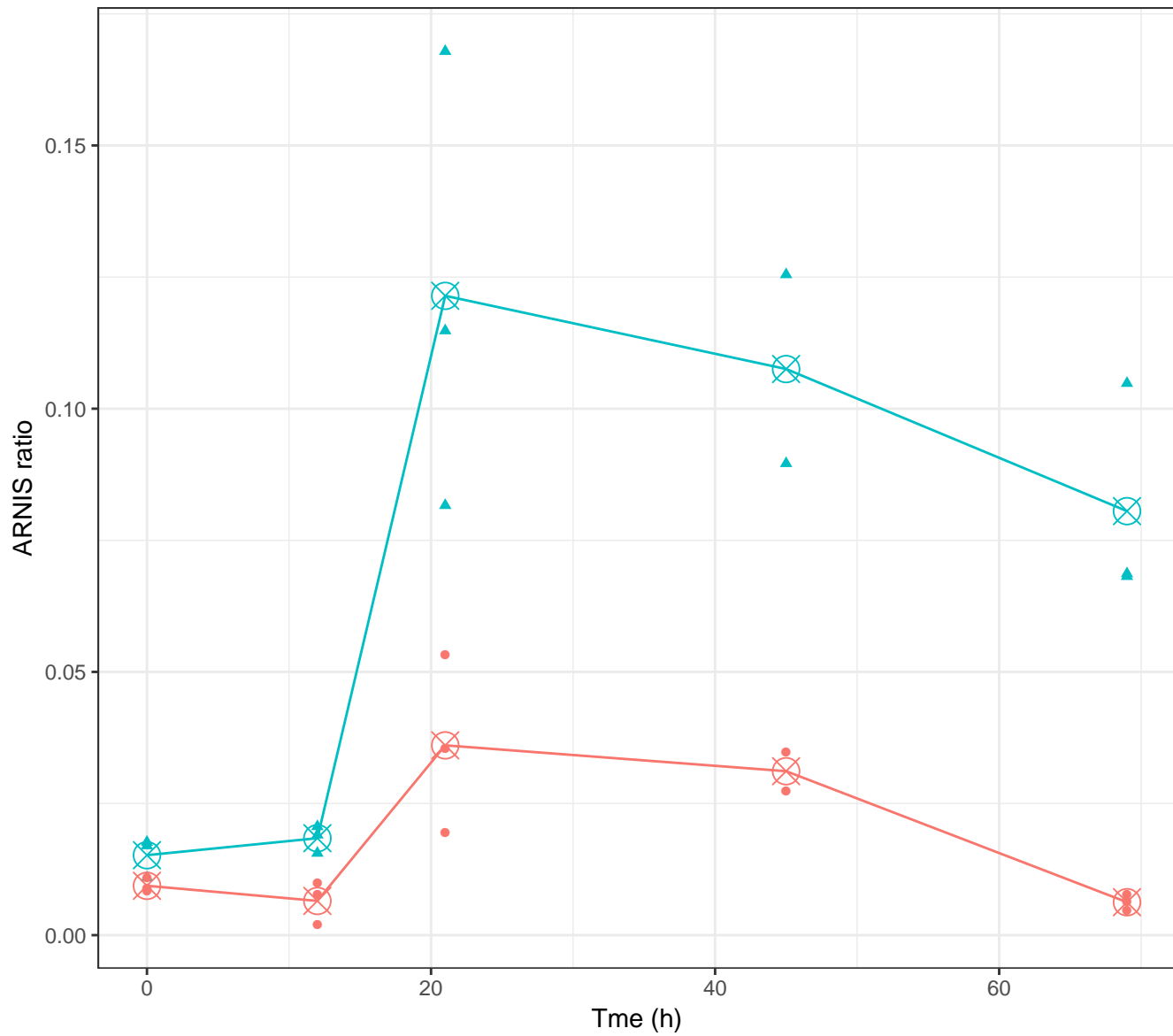
OTU.195_Alphaproteobacteria_CandidatusCaptivus

Treatment Control Filtered-1micron



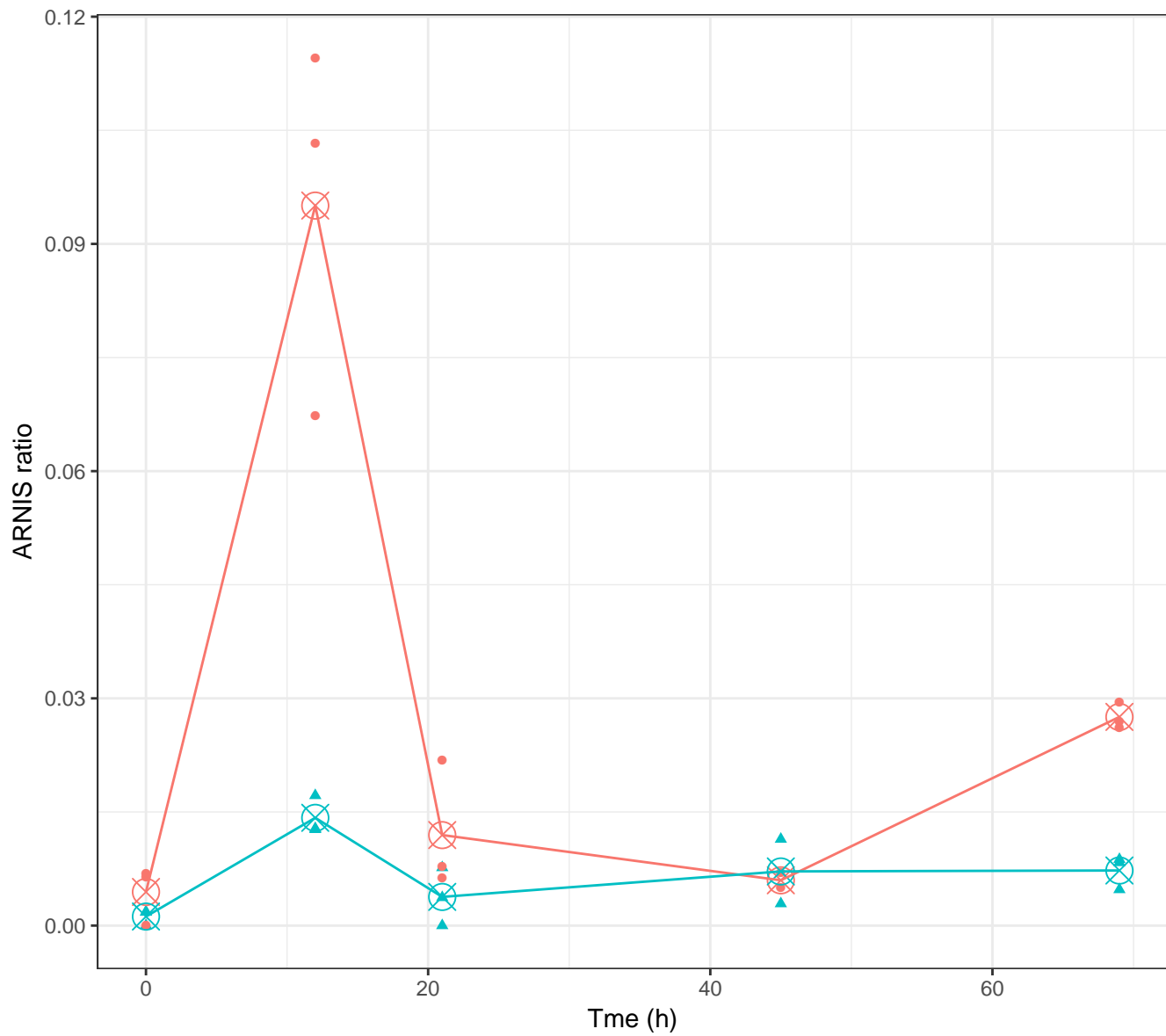
OTU.210_Bacteroidetes_NS11.12_marine_group

Treatment Control Filtered-1micron



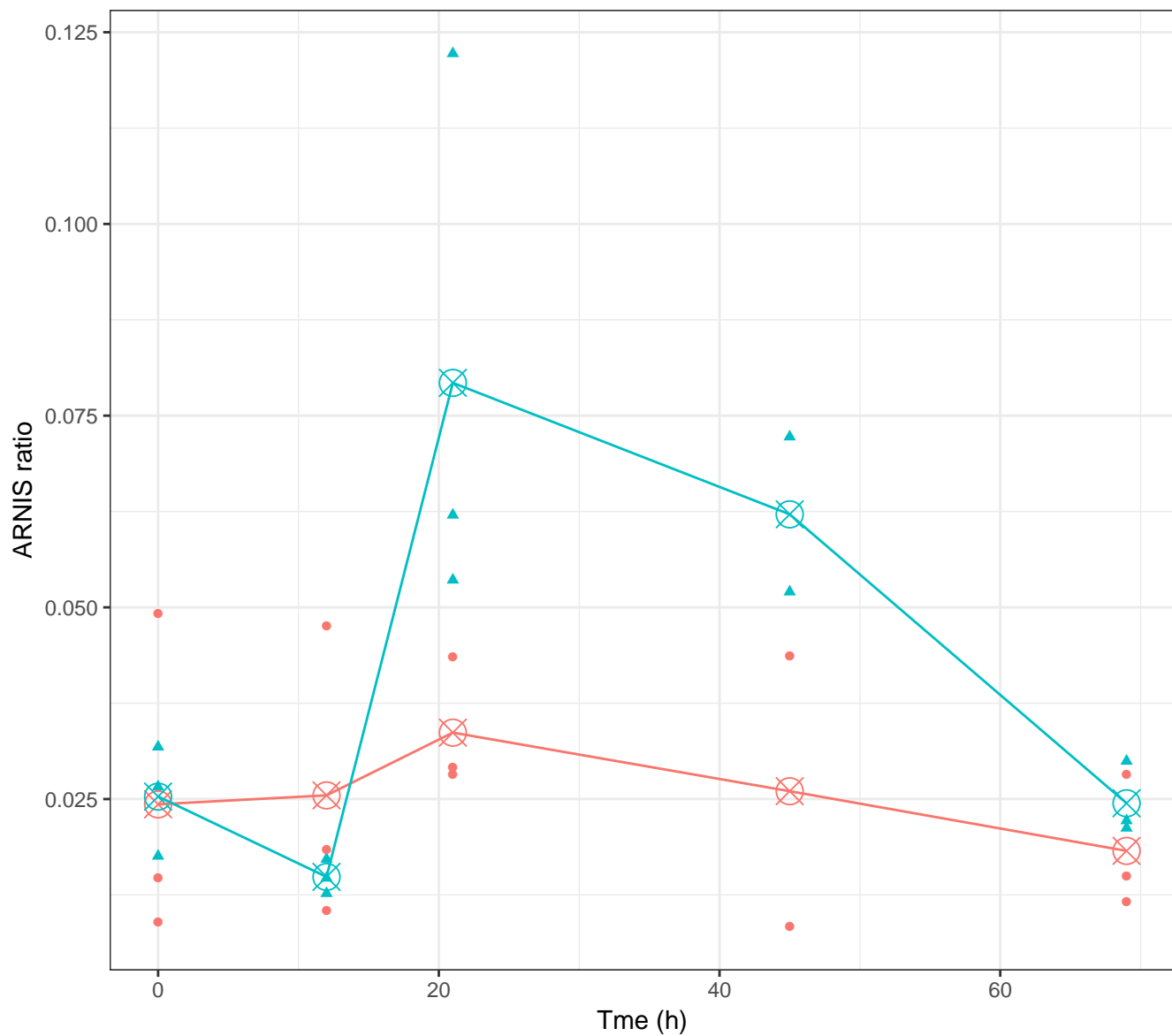
OTU.213_Alphaproteobacteria_Brevundimonas

Treatment Control Filtered-1micron



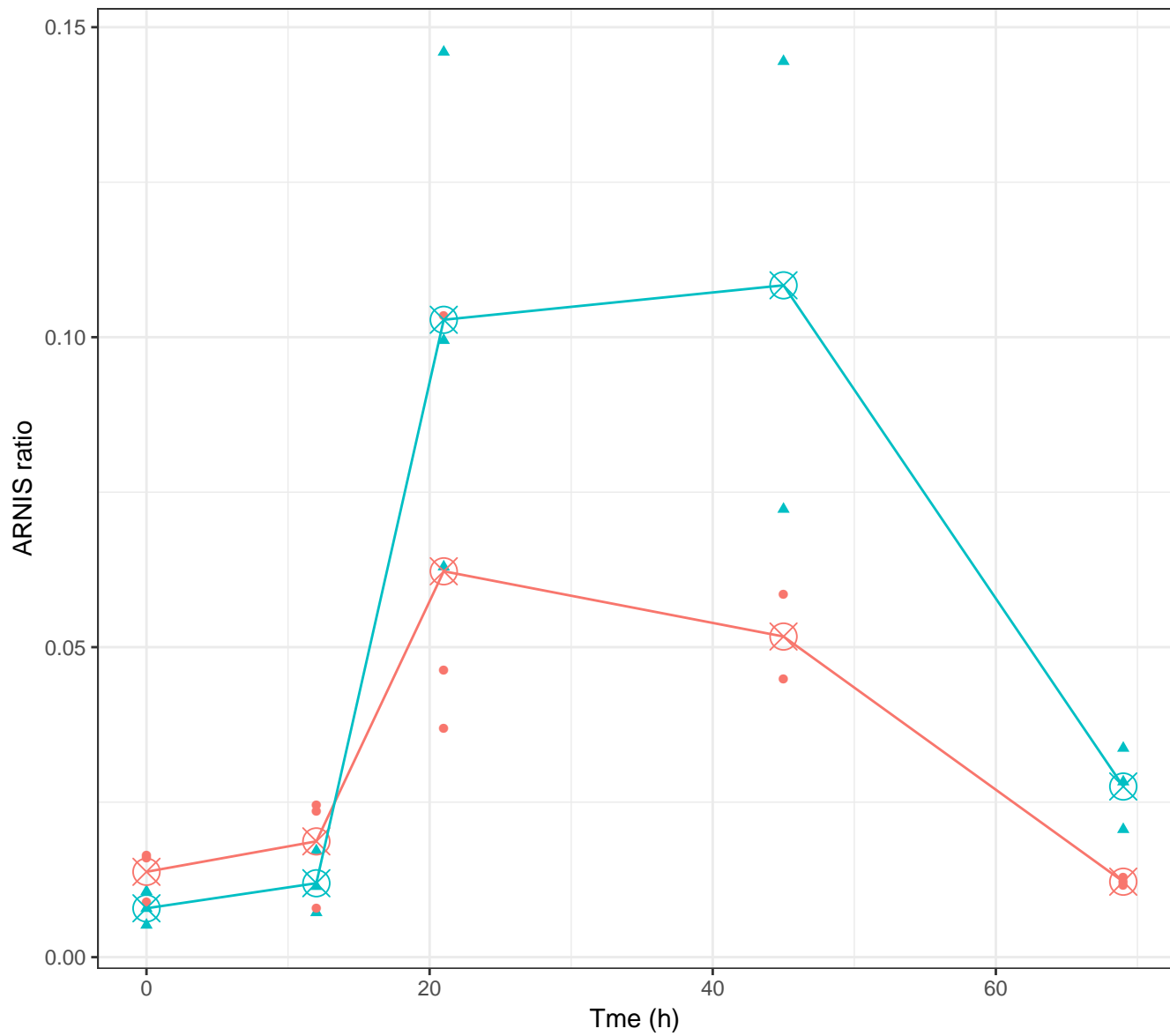
OTU.21_Betaproteobacteria_Kerstesia

Treatment ⊗ Control ⊗ Filtered-1micron



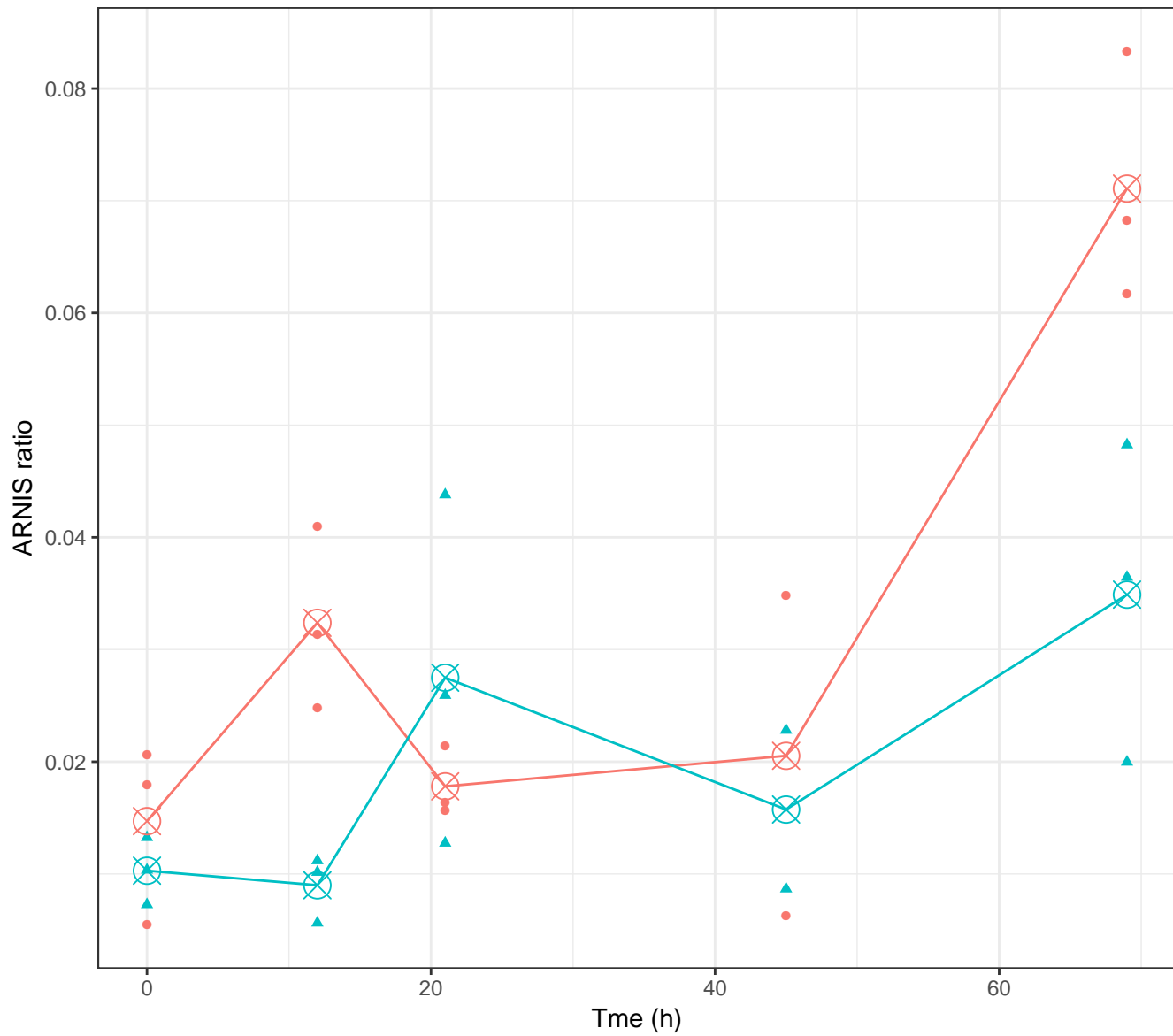
OTU.233_Bacteroidetes_Flavobacterium

Treatment Control Filtered-1micron



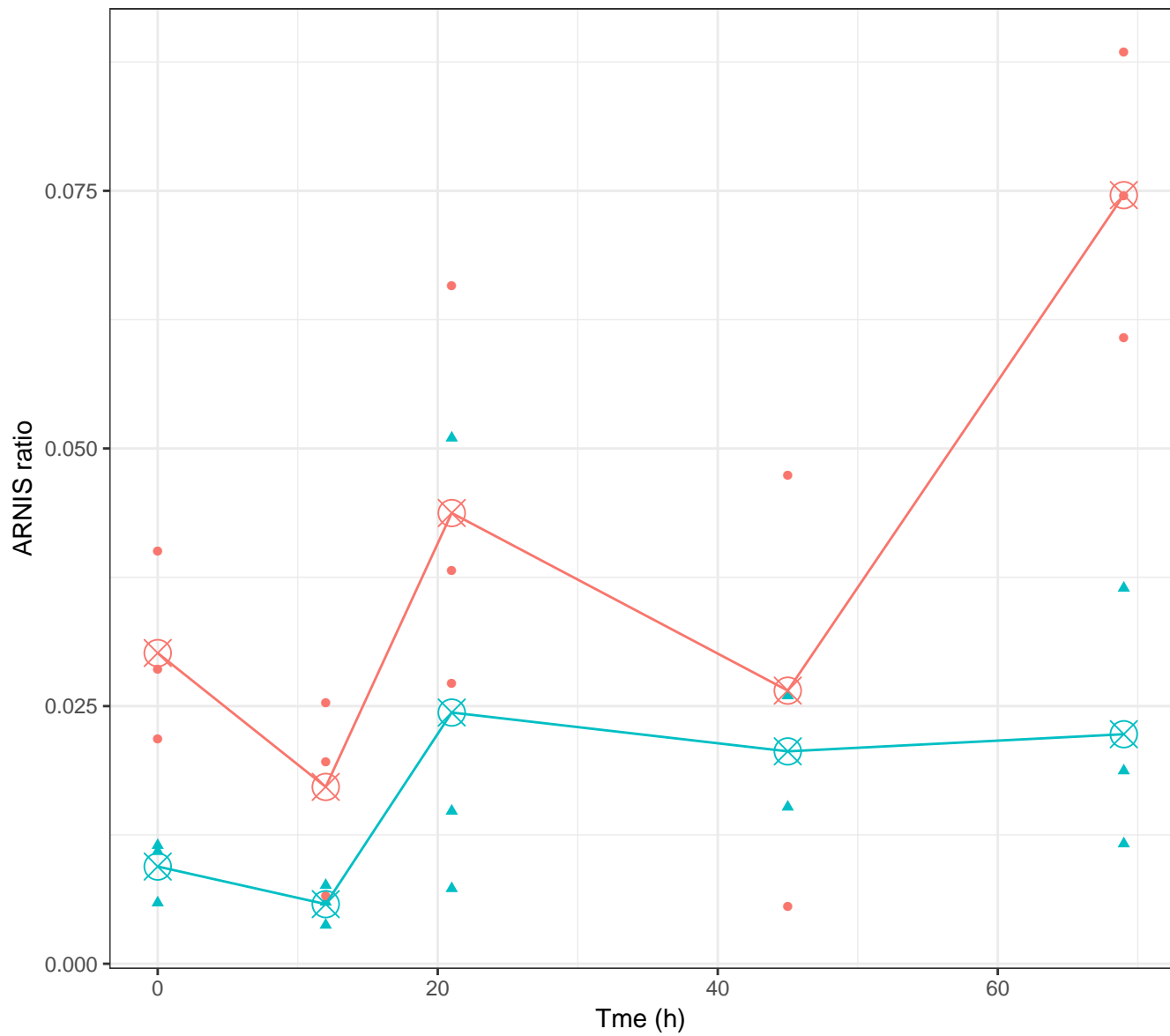
OTU.313_Alphaproteobacteria_Phenylobacterium

Treatment Control Filtered-1micron



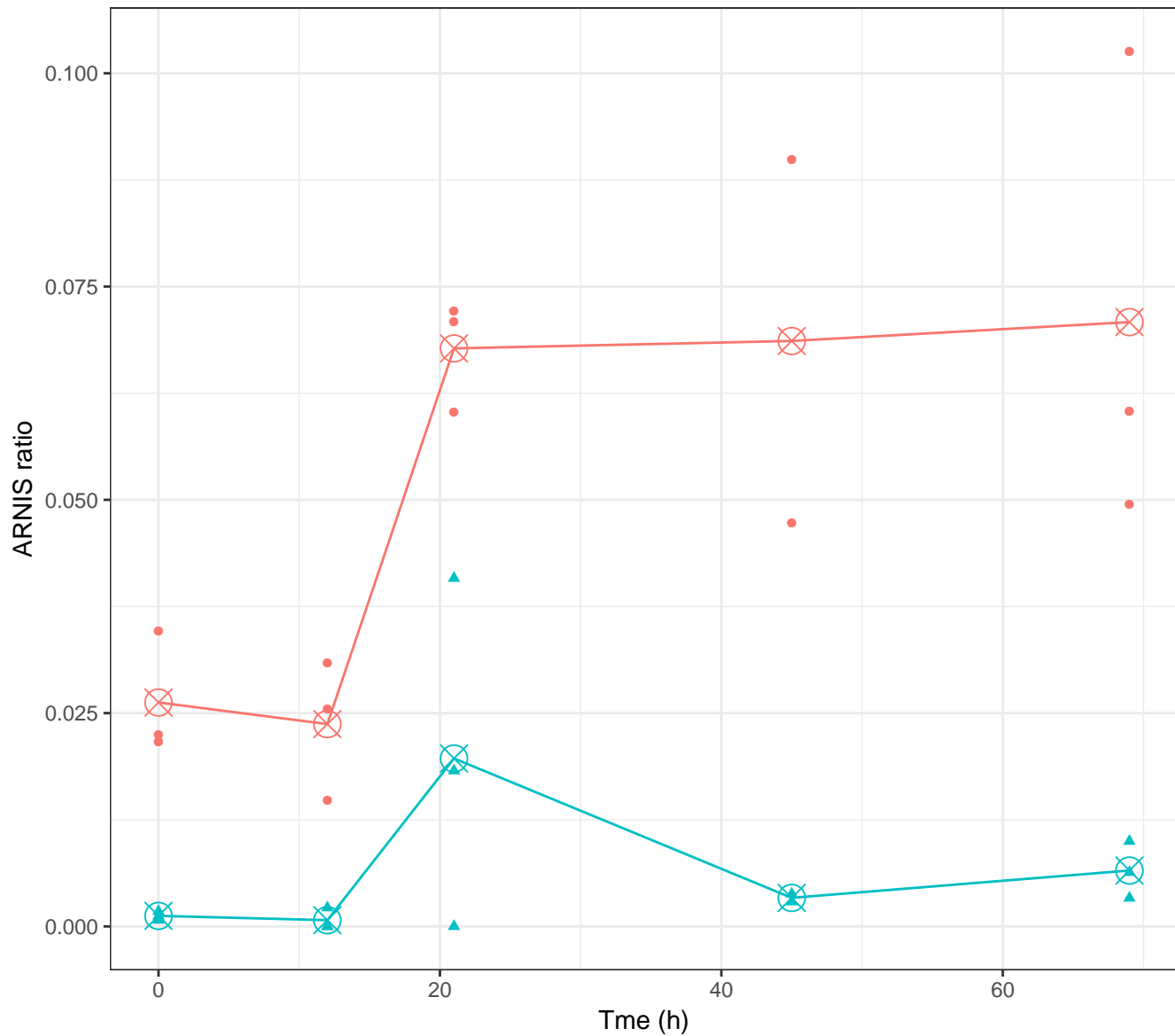
OTU.250_Verrucomicrobia_Verrucomicrobiaceae

Treatment ⊗ Control ⊗ Filtered-1micron



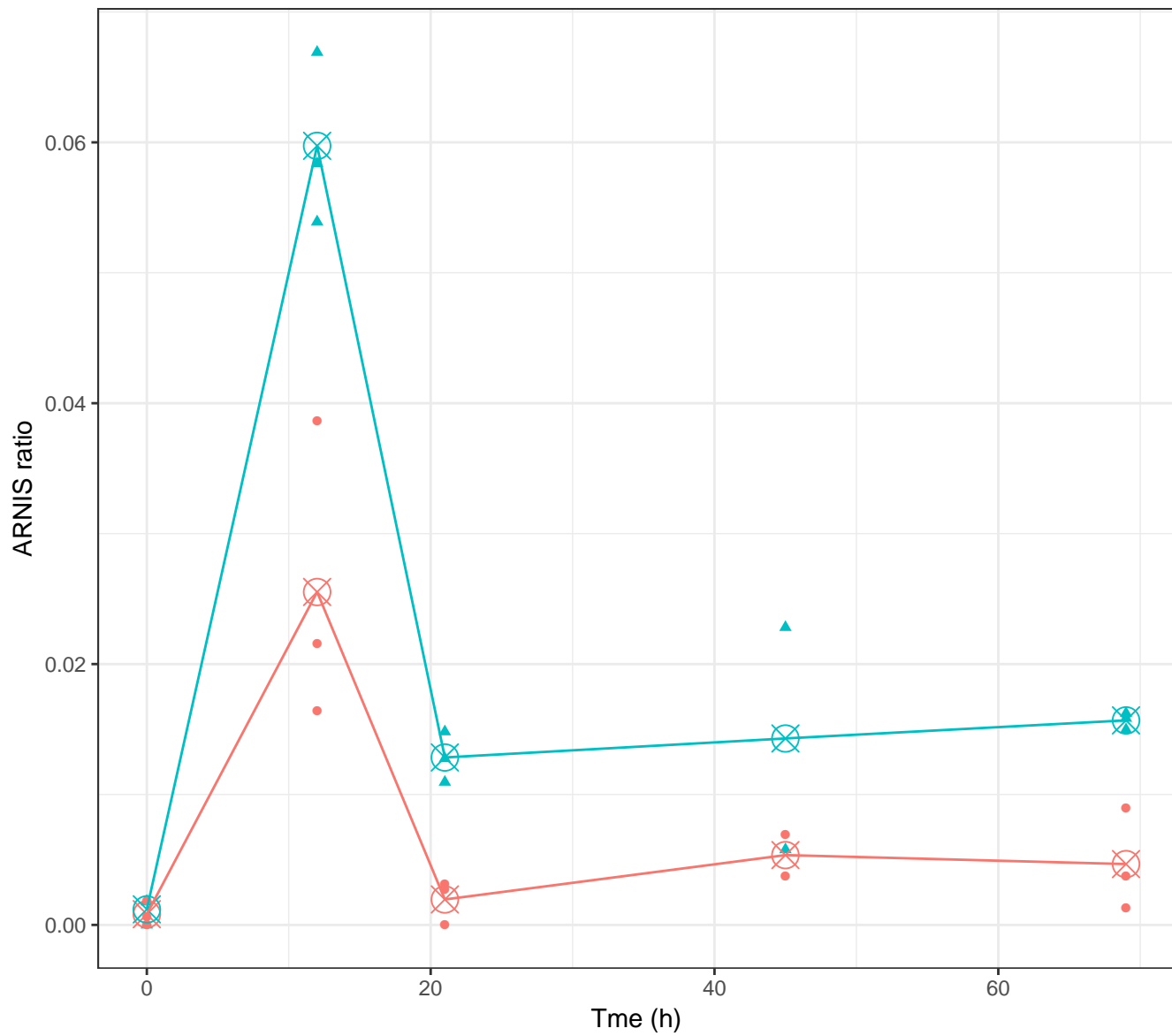
OTU.229_Bacteroidetes_Sphingobacteriales_LiUU.11.161

Treatment ⊗ Control ⊗ Filtered-1micron



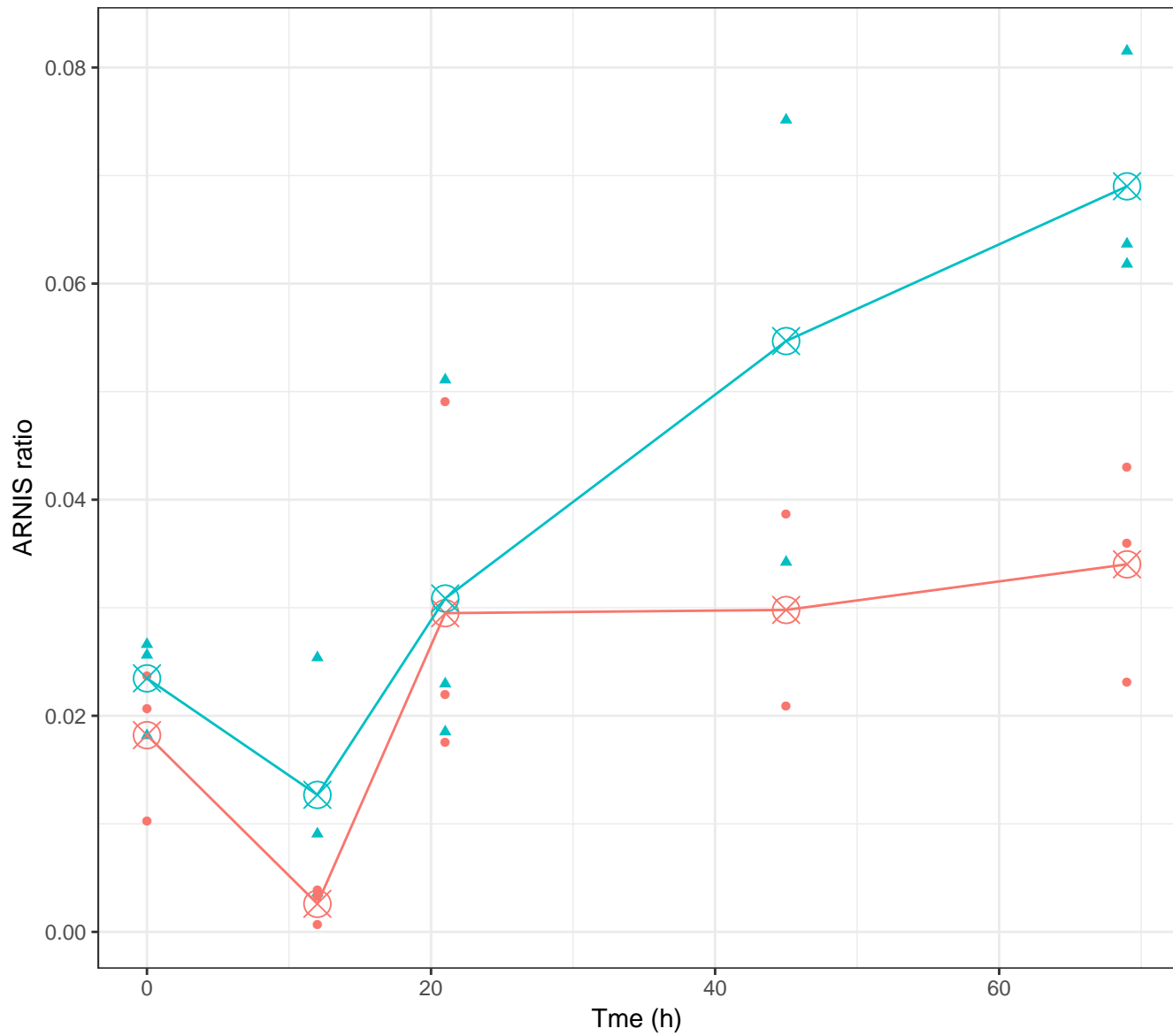
OTU.203_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



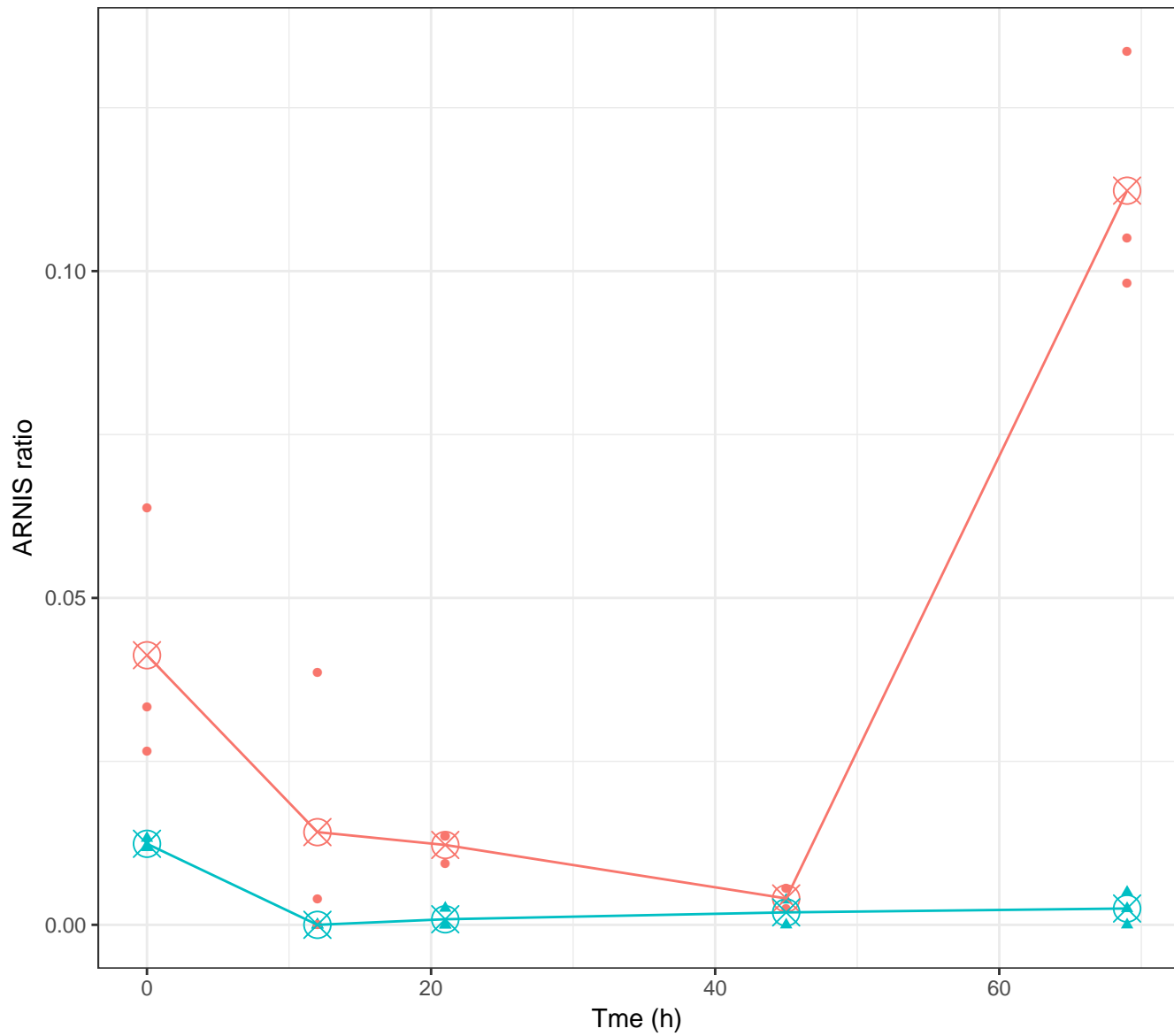
OTU.207_Gammaproteobacteria_Pseudospirillum

Treatment Control Filtered-1micron



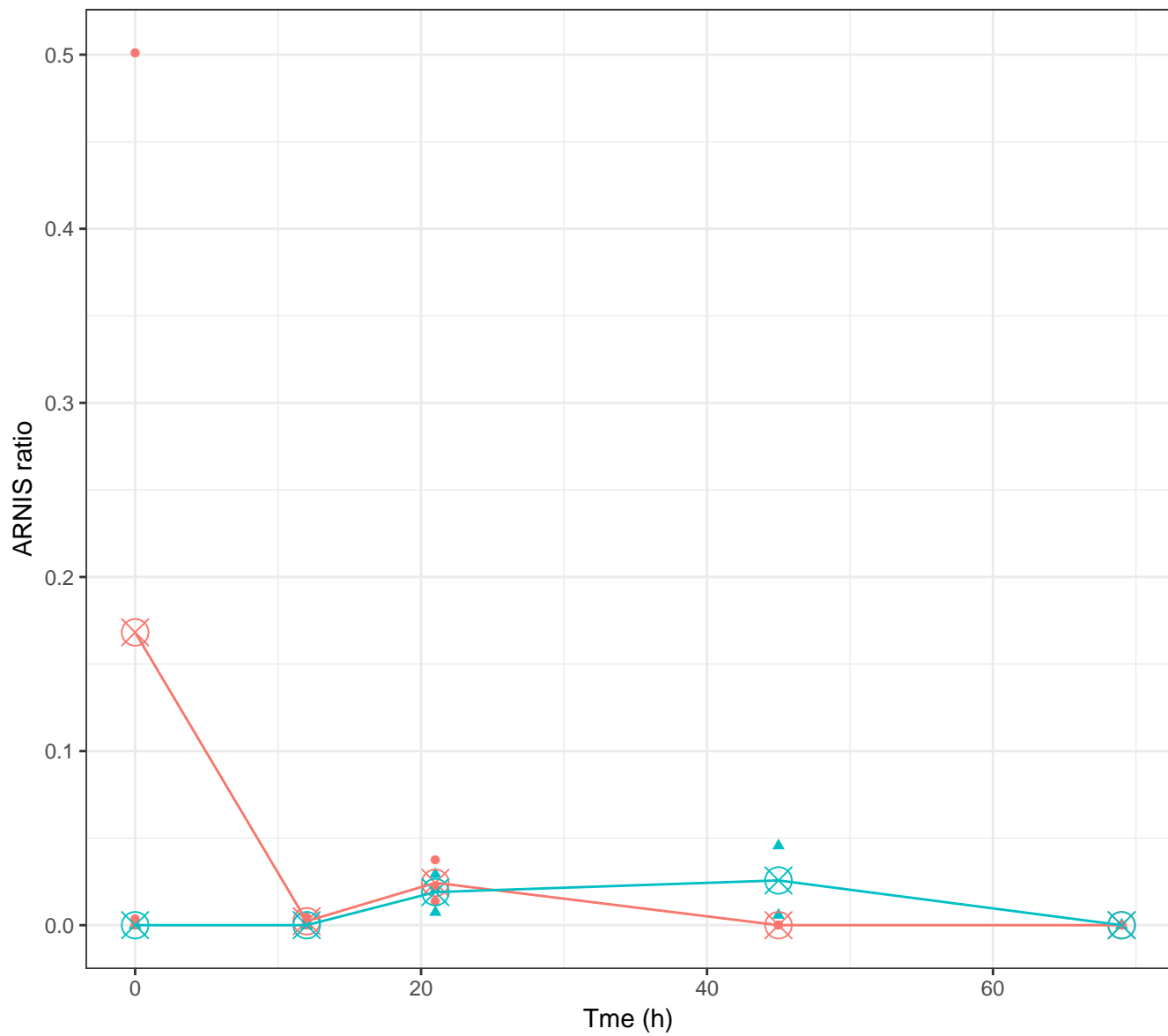
OTU.231_Bacteroidetes_Saprospiraceae

Treatment Control Filtered-1micron



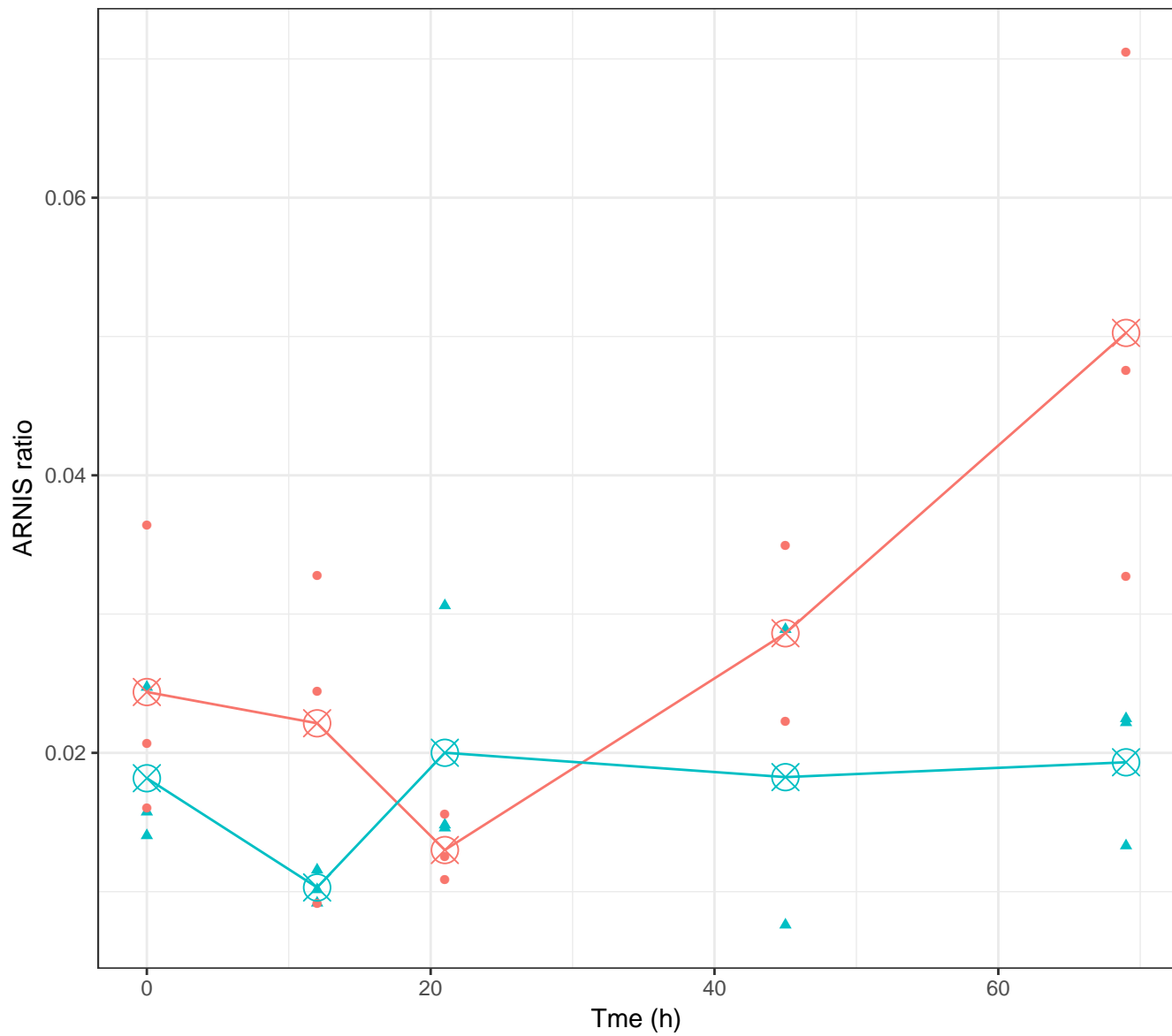
OTU.237_Chloroflexi_Caldilinea

Treatment Control Filtered-1micron



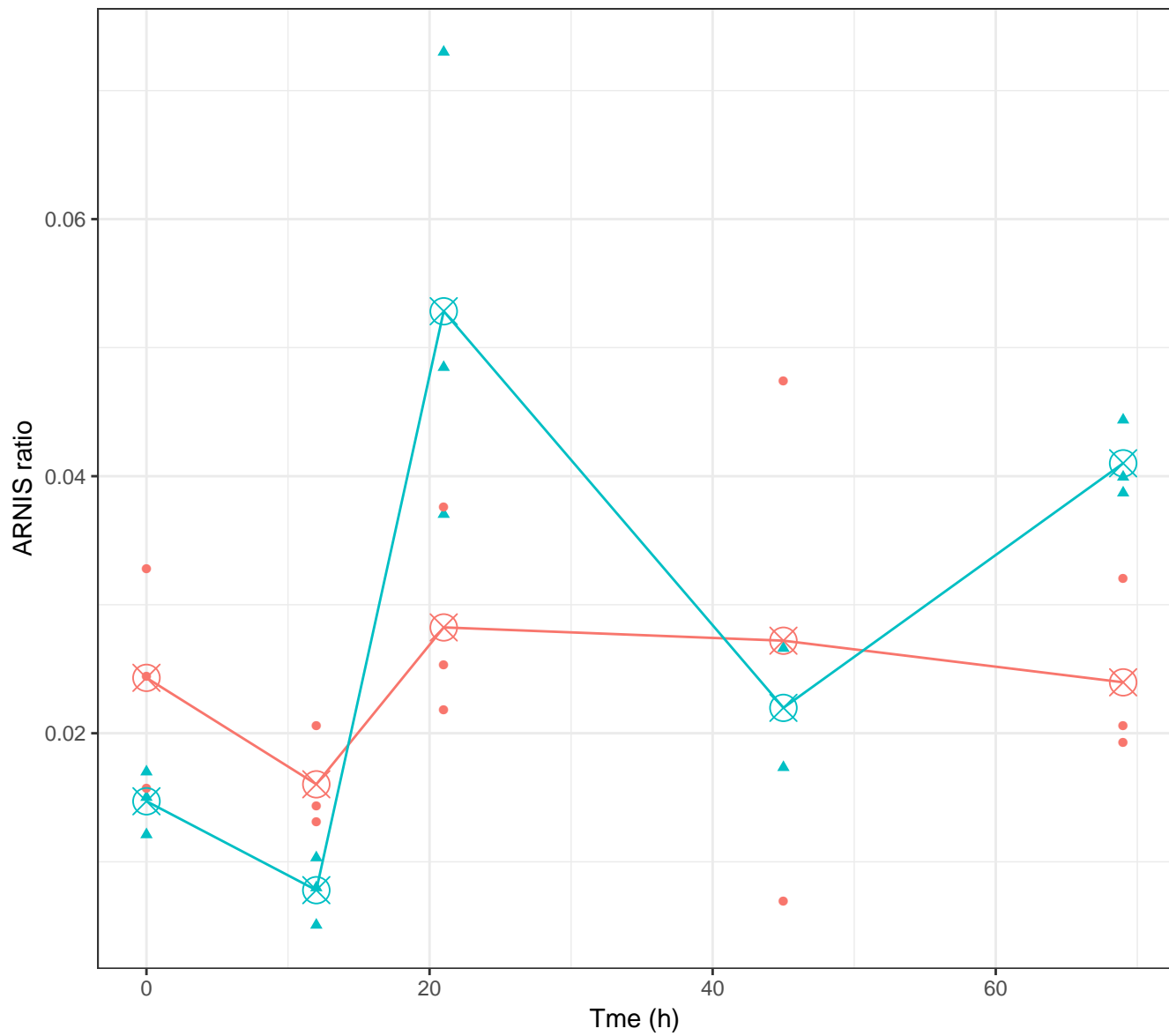
OTU.329_Verrucomicrobia_Opitutus

Treatment ⊗ Control ⊗ Filtered-1micron



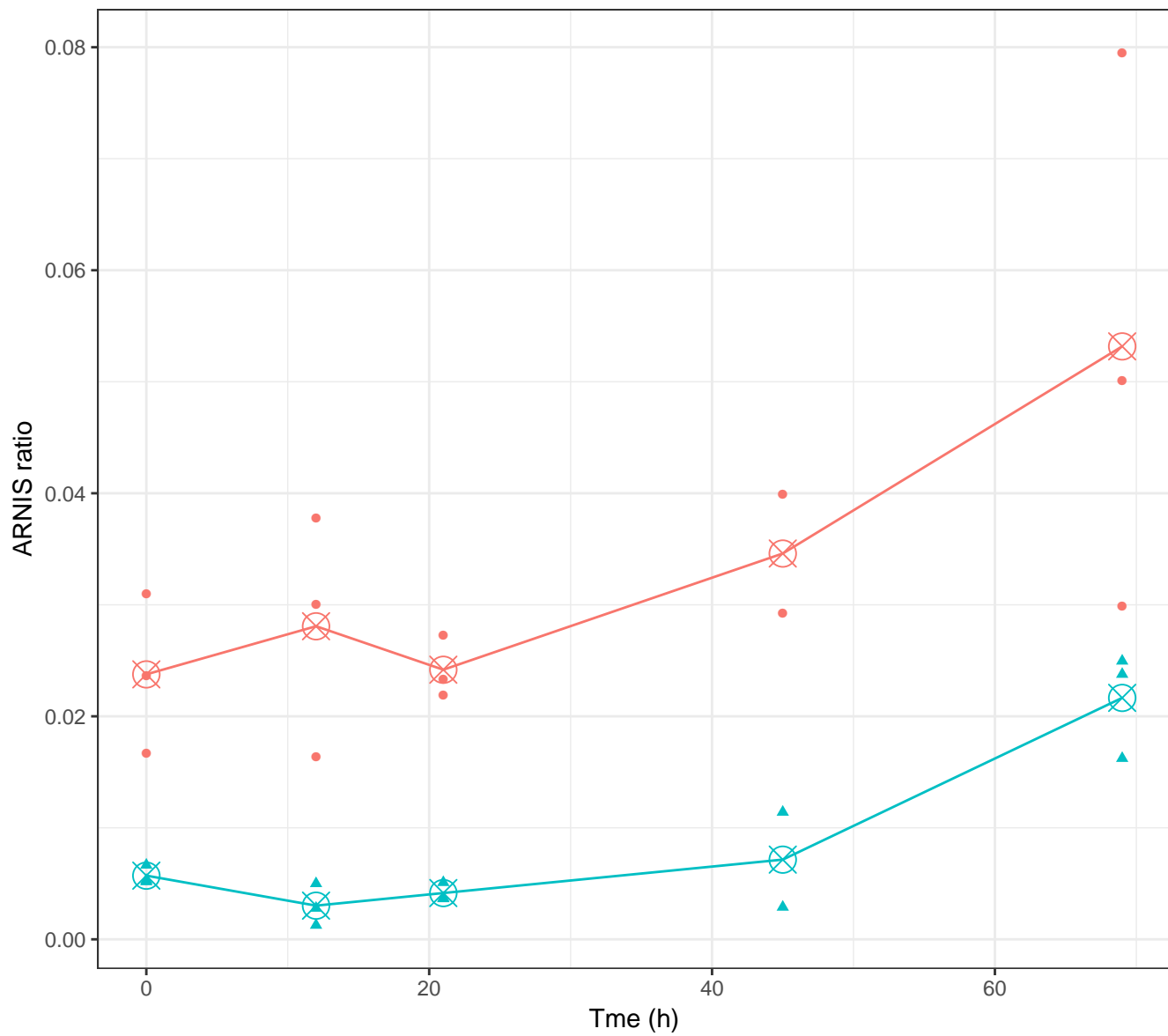
OTU.325_Verrucomicrobia_Verrucomicrobiaceae

Treatment Control Filtered-1micron



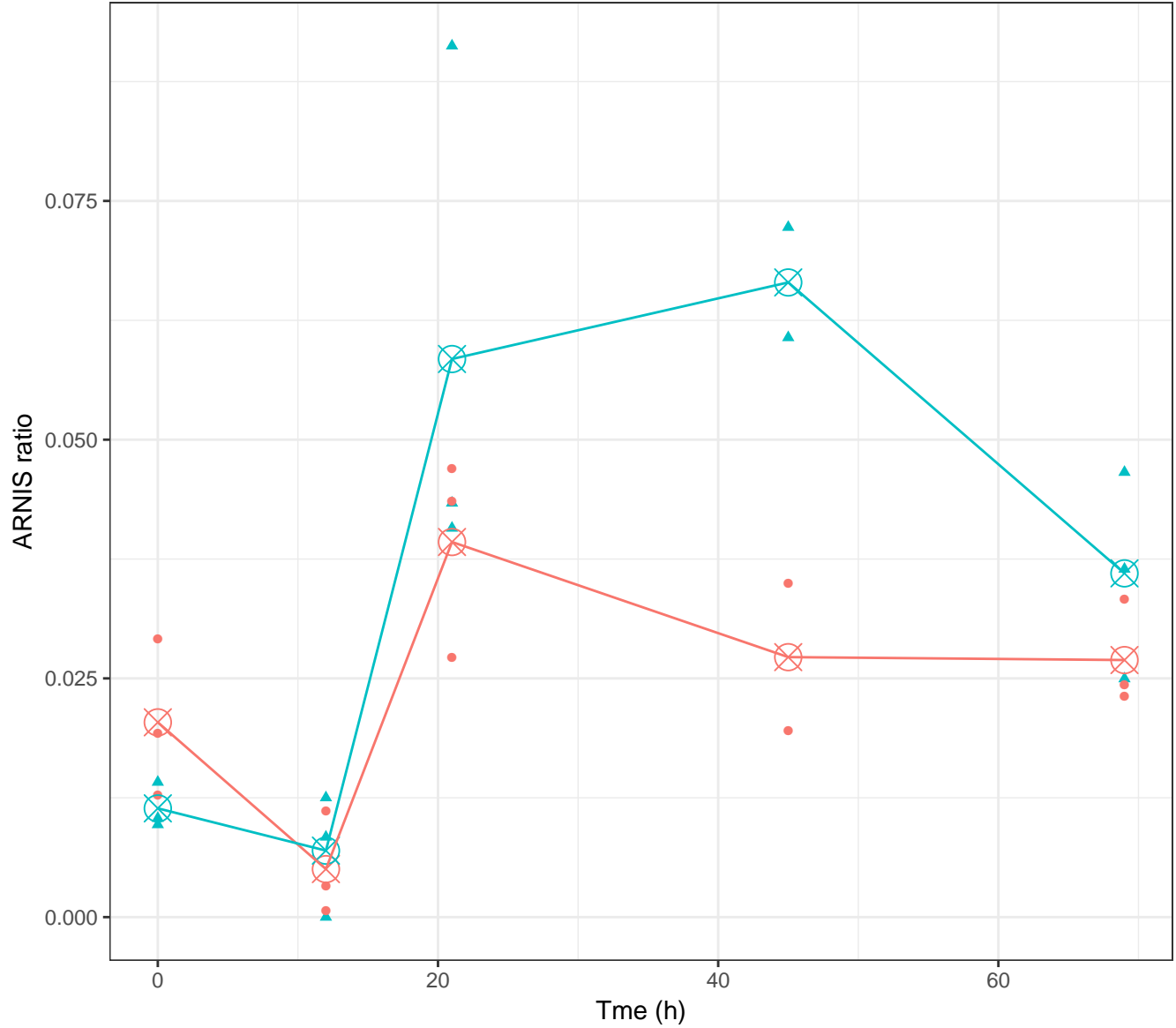
OTU.276_Gemmatimonadetes_Gemmatimonas

Treatment Control Filtered-1micron



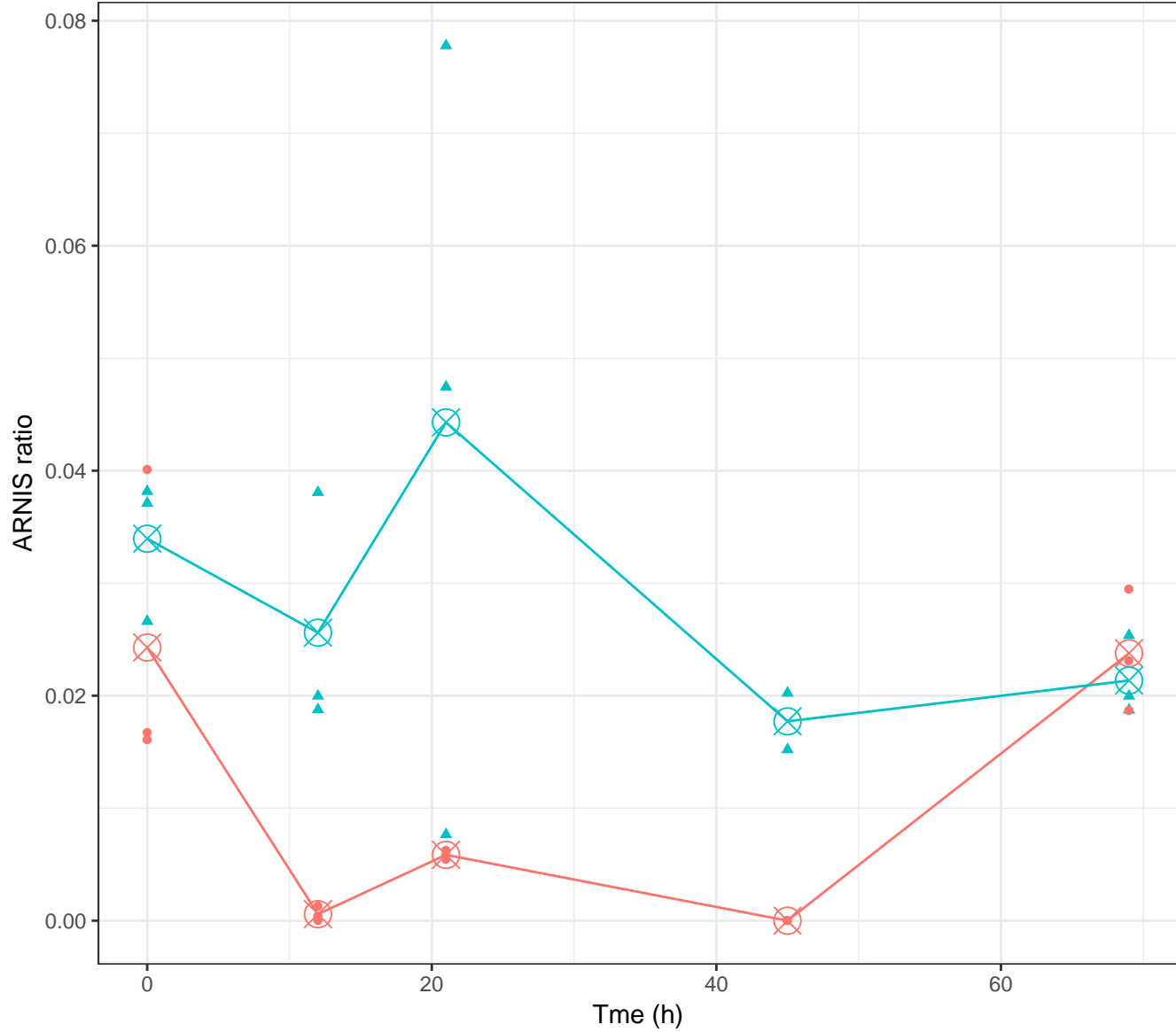
OTU.267_Bacteroidetes_Cytophagaceae

Treatment ⊗ Control ⊗ Filtered-1micron



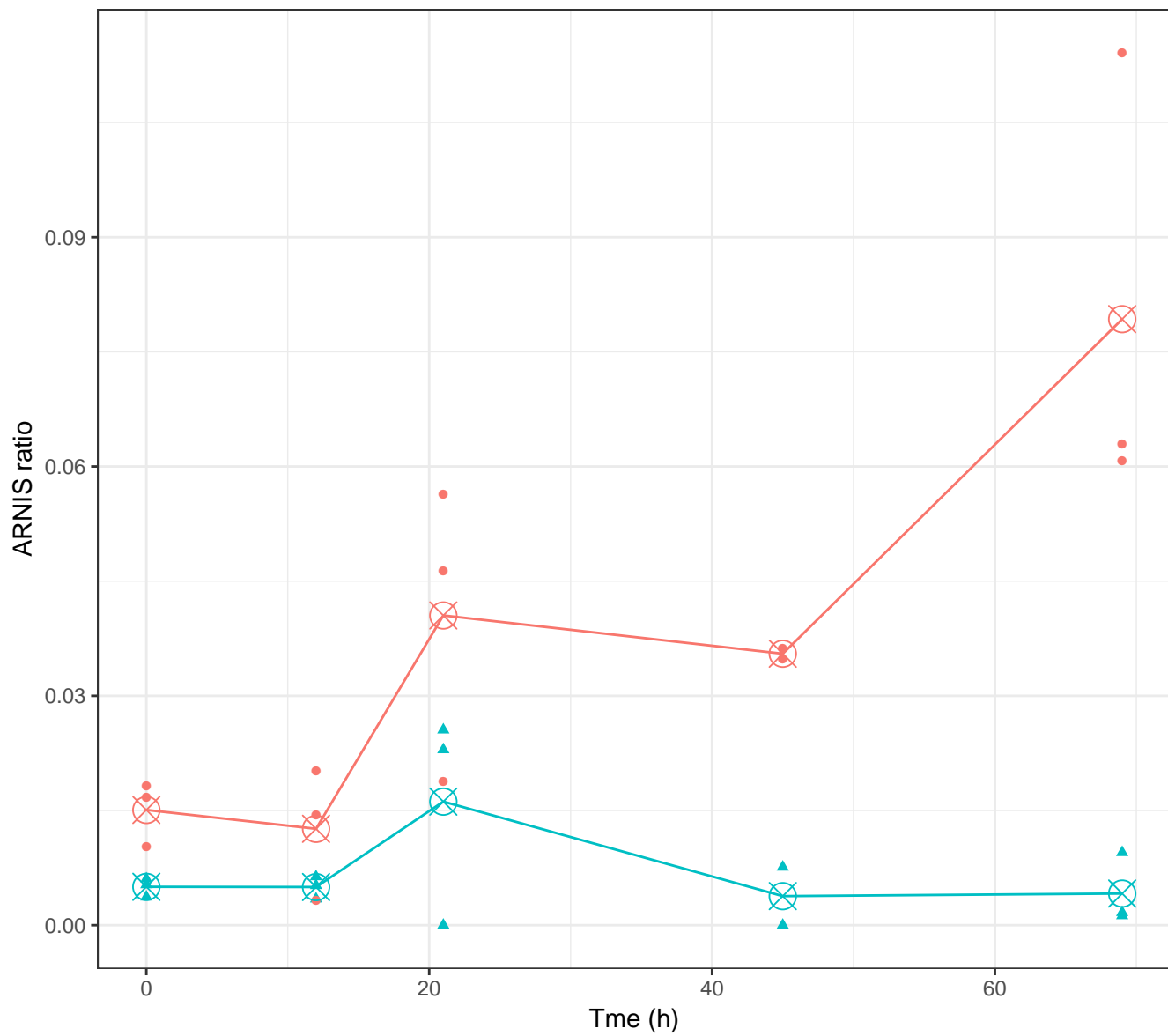
OTU.260_Spirochaetes_Leptospira

Treatment Control Filtered-1micron



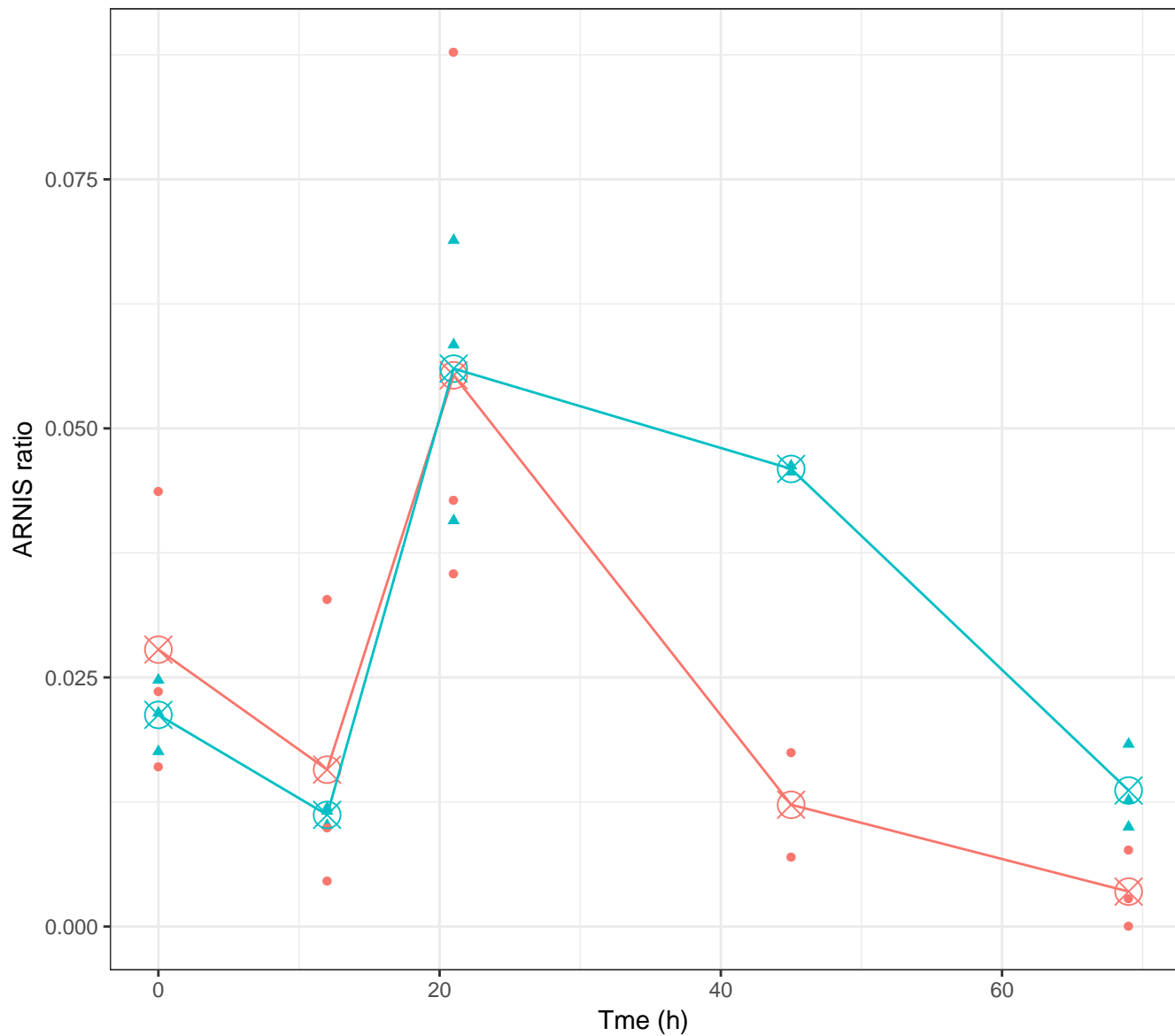
OTU.264_Proteobacteria_TA18

Treatment Control Filtered-1micron



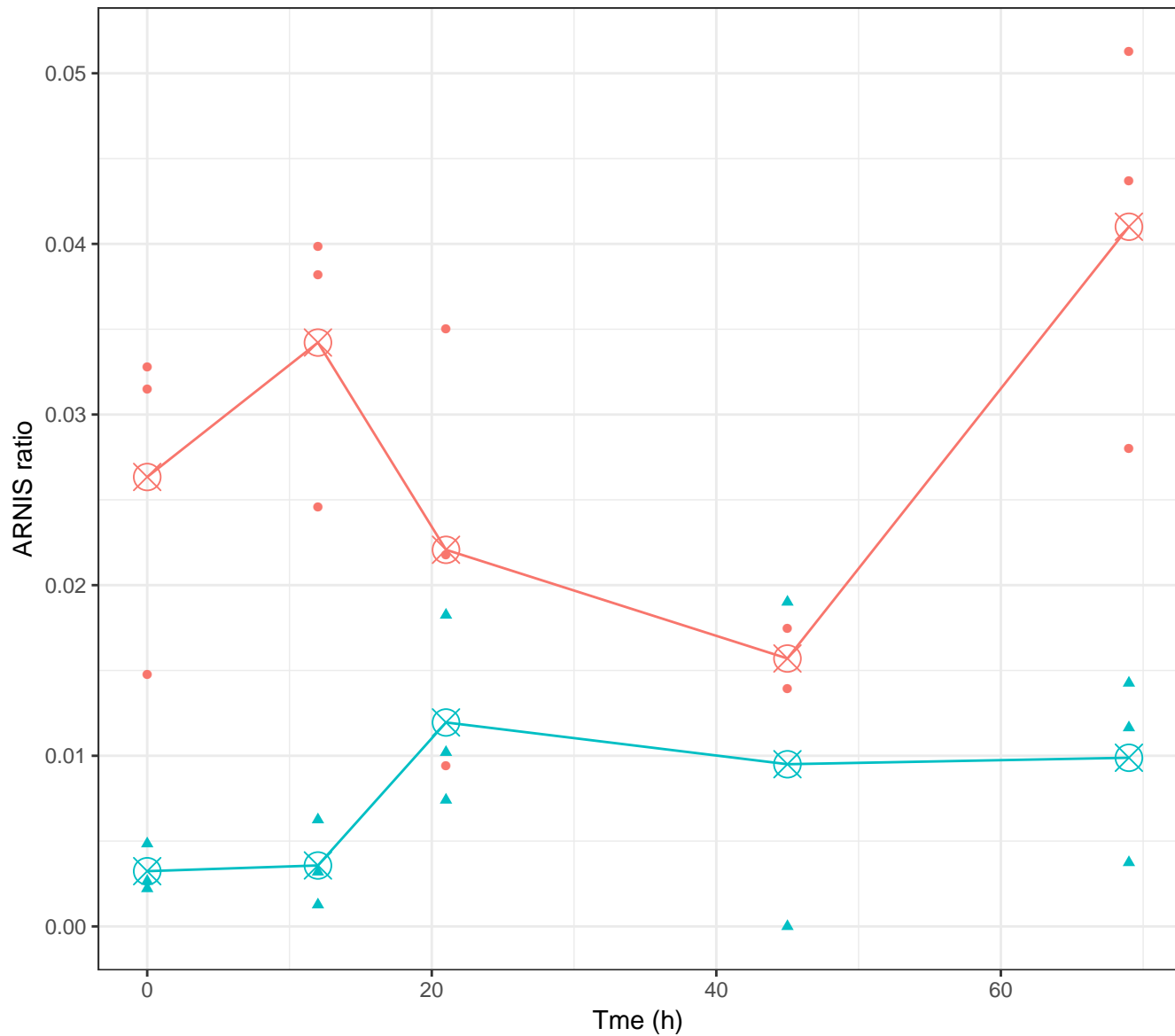
OTU.27_Betaproteobacteria_Methylotenera

Treatment Control Filtered-1micron



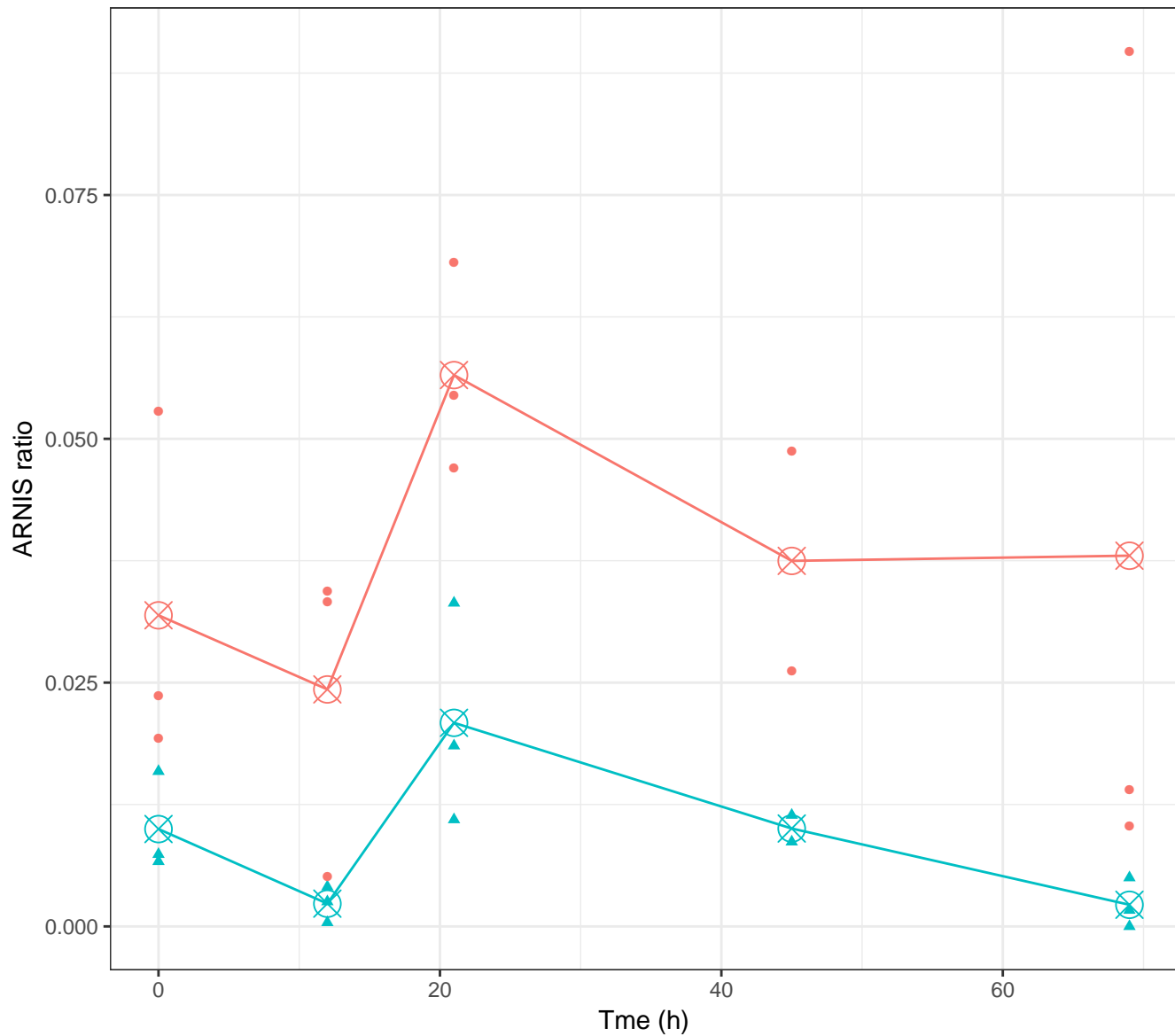
OTU.262_Alphaproteobacteria_Sphingomonadales

Treatment Control Filtered-1micron



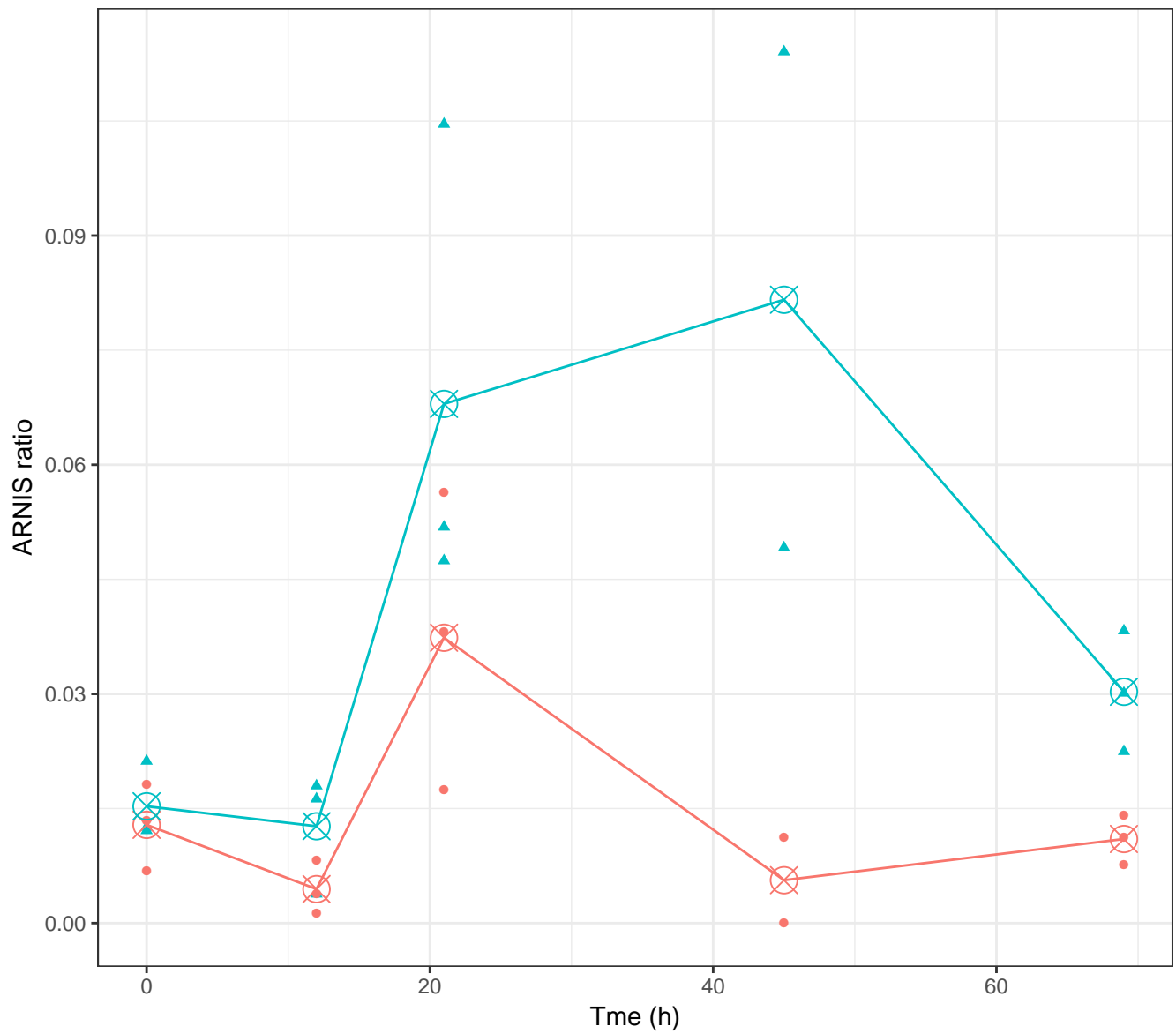
OTU.402_Bacteroidetes_Chryseobacterium

Treatment Control Filtered-1micron



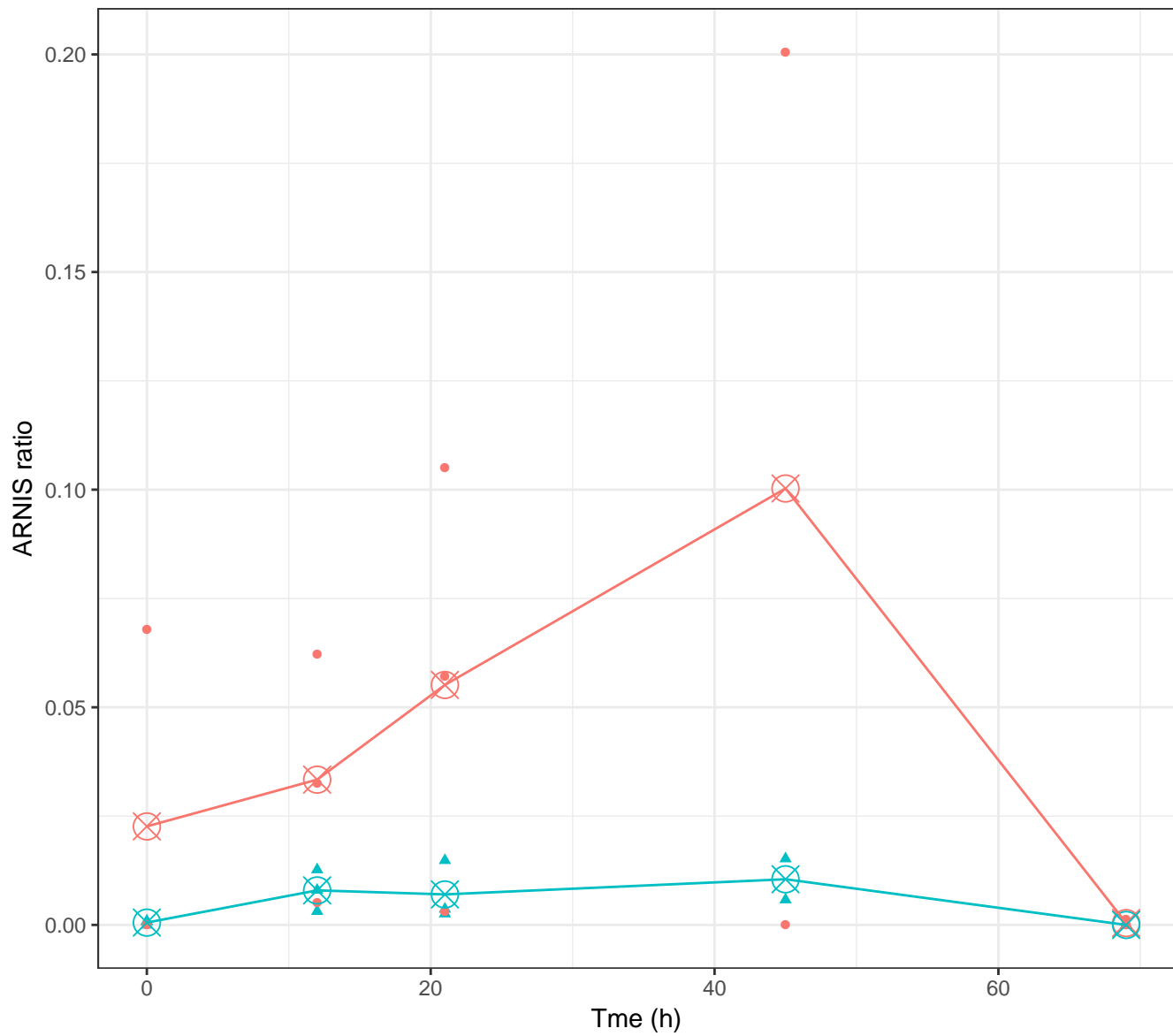
OTU.273_Bacteroidetes_Siphonobacter

Treatment Control Filtered-1micron



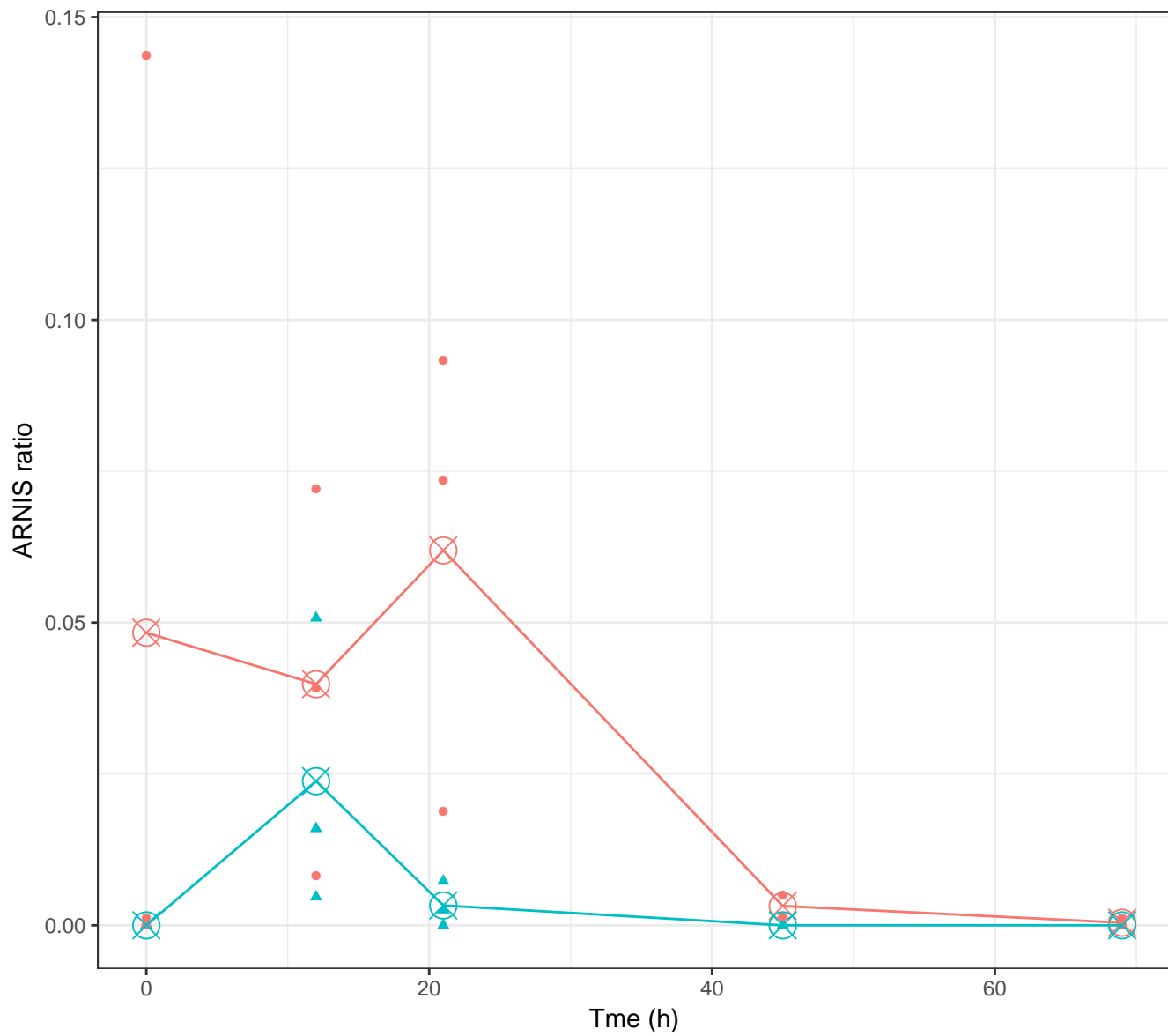
OTU.190_Firmicutes_Staphylococcus

Treatment Control Filtered-1micron



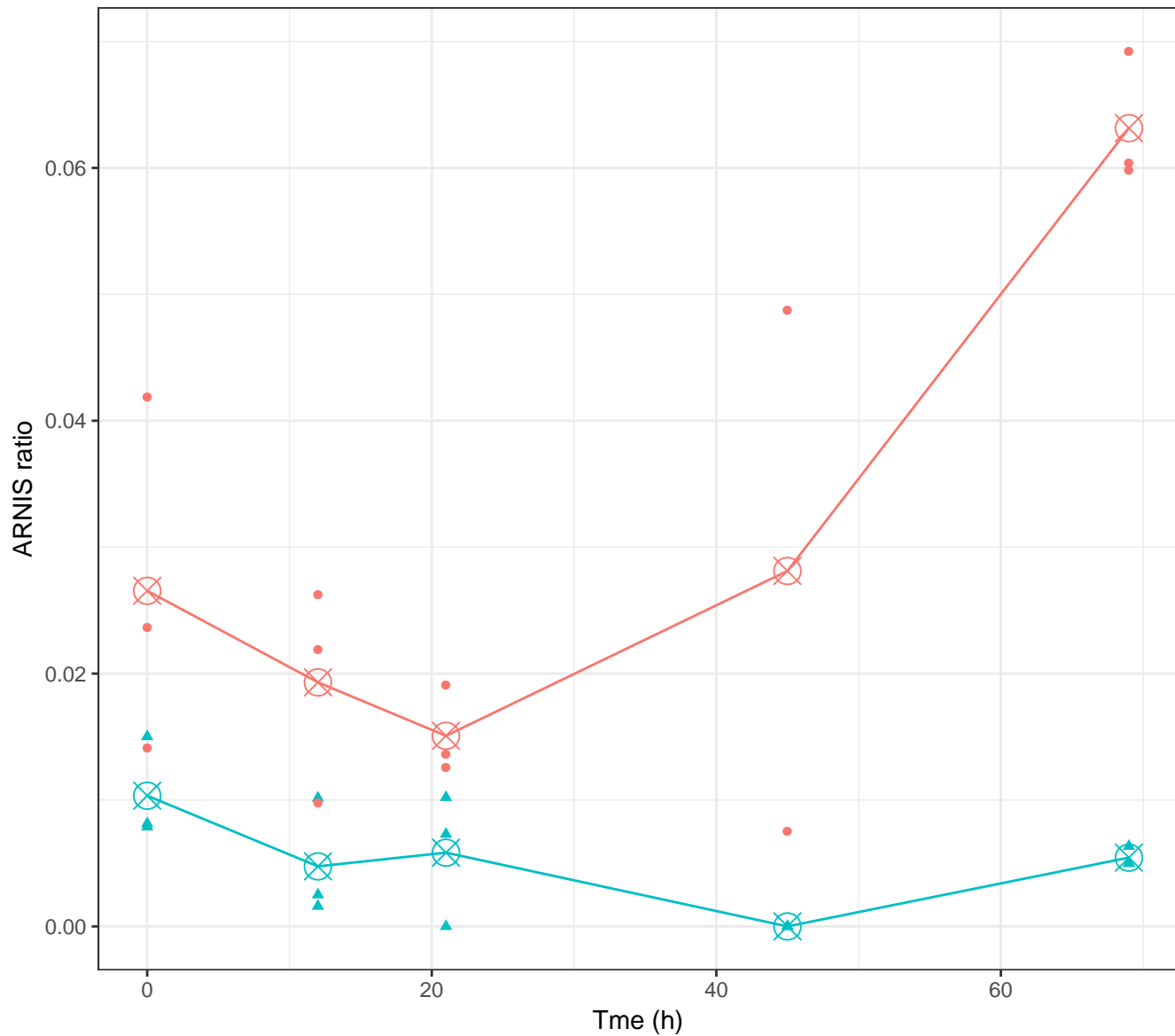
OTU.319_Alphaproteobacteria_Methylobacterium

Treatment Control Filtered-1micron



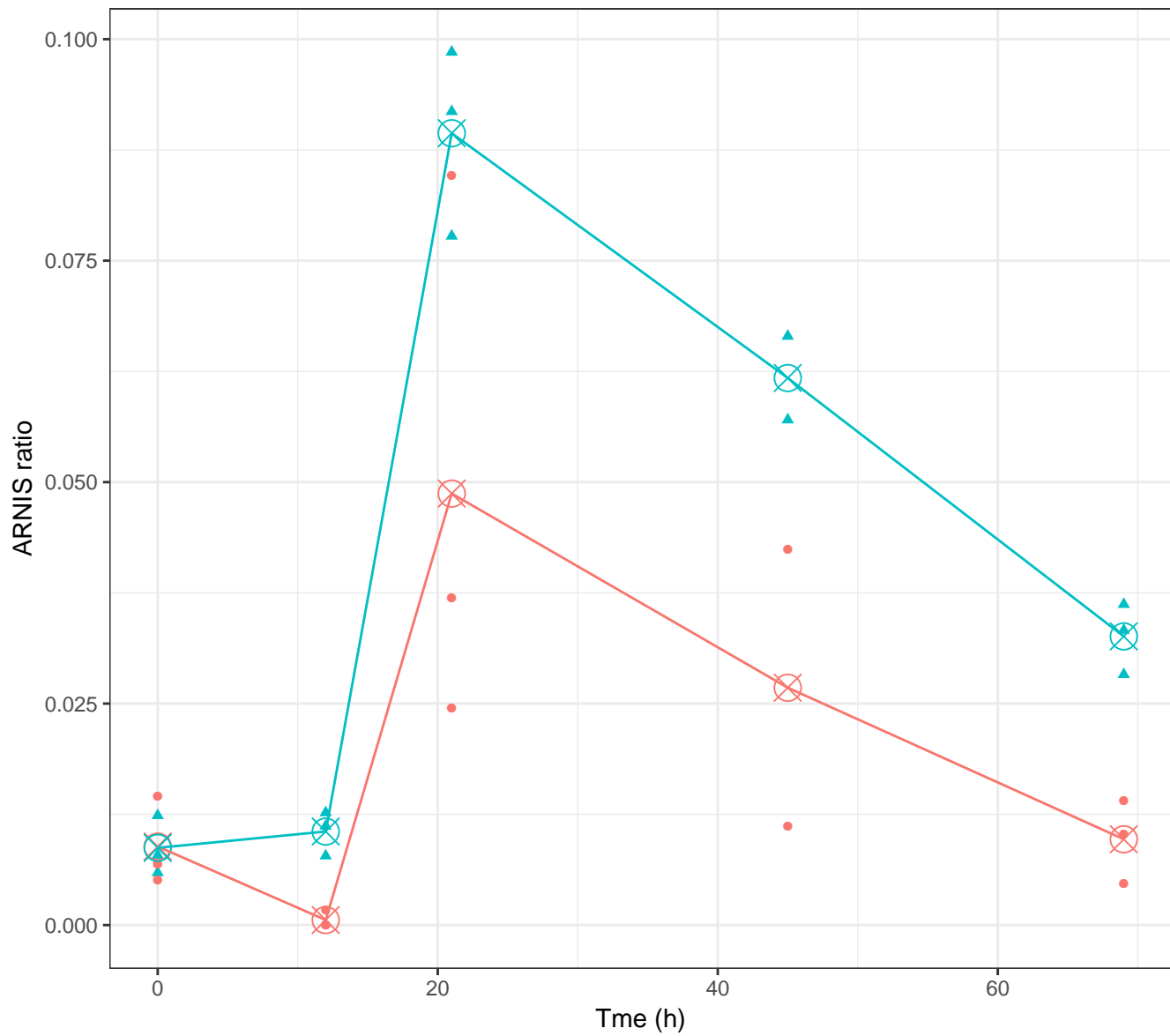
OTU.316_Planctomyces_CL500.3

Treatment Control Filtered-1micron



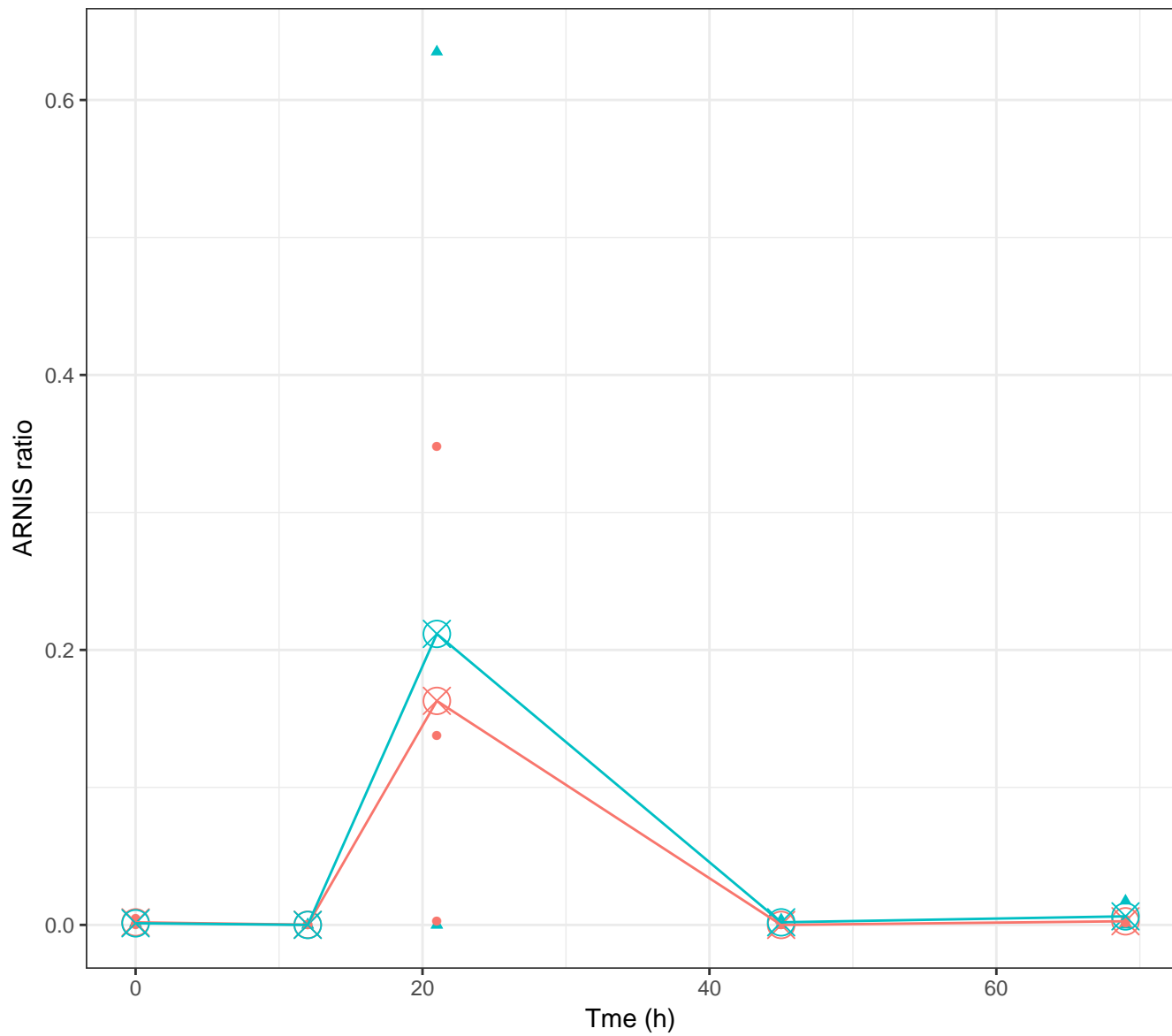
OTU.94_Bacteroidetes_env.OPS_17

Treatment ⊗ Control ⊗ Filtered-1micron



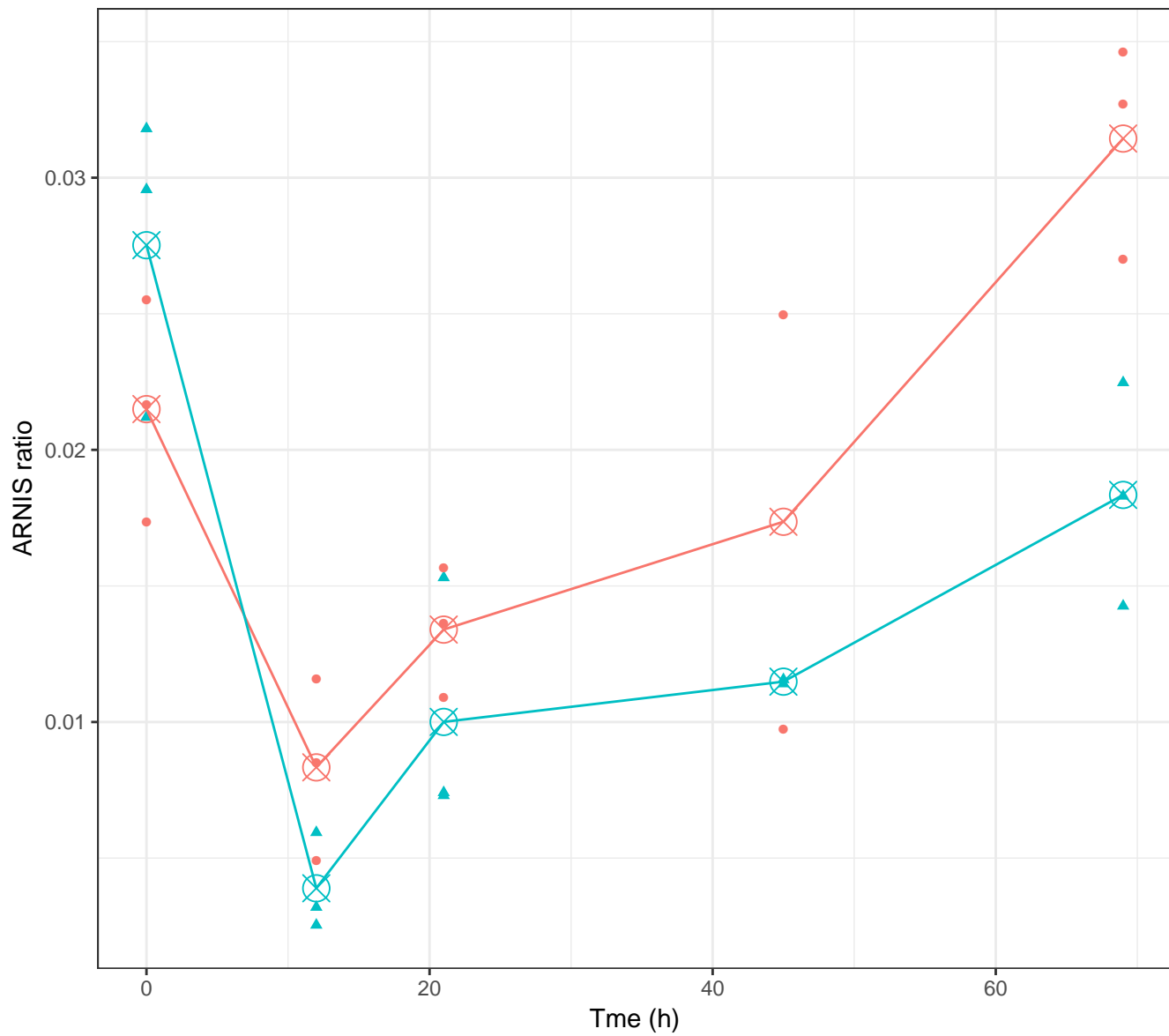
OTU.487_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron



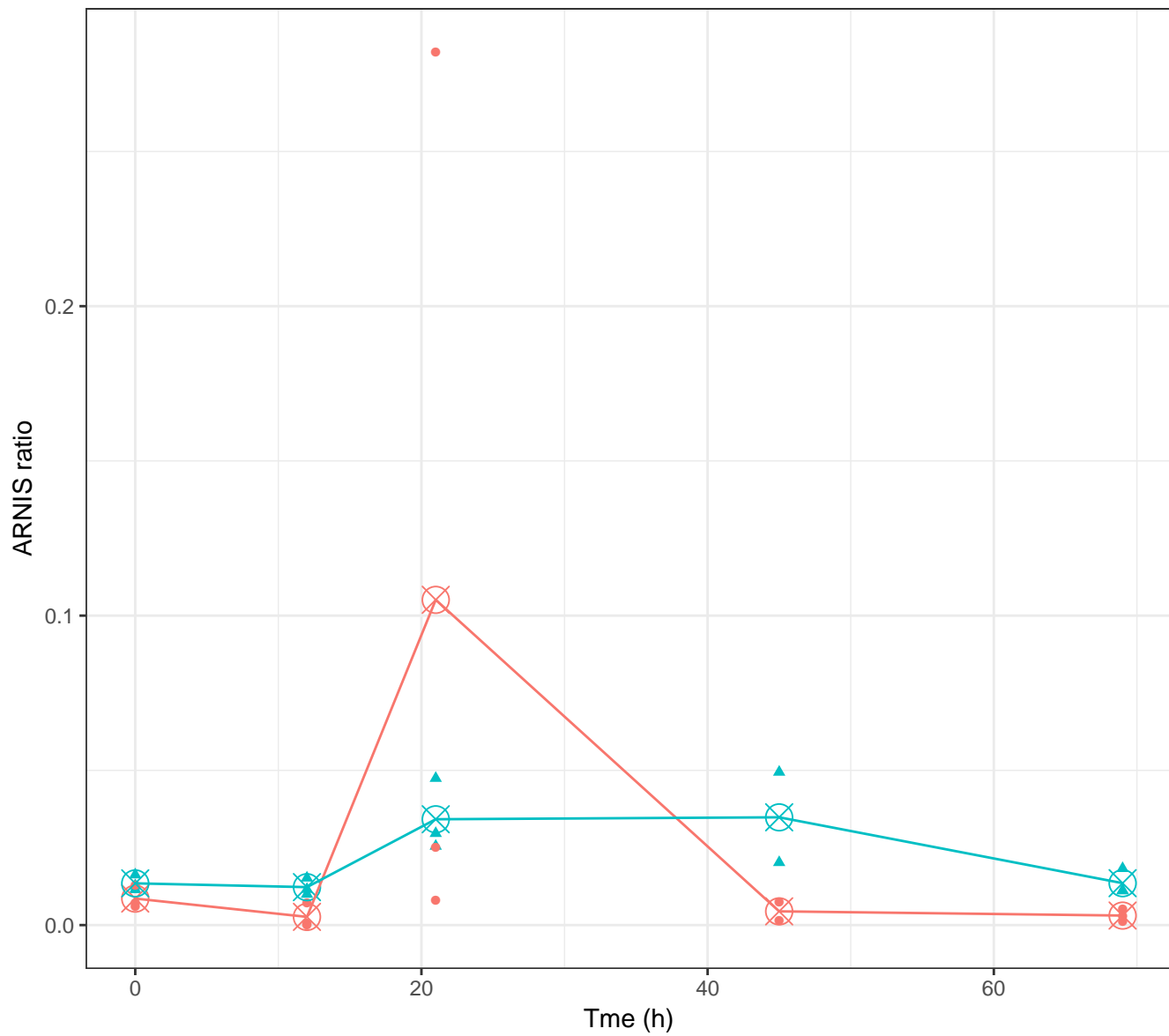
OTU.6821_Chloroflexi_Roseiflexus

Treatment Control Filtered-1micron



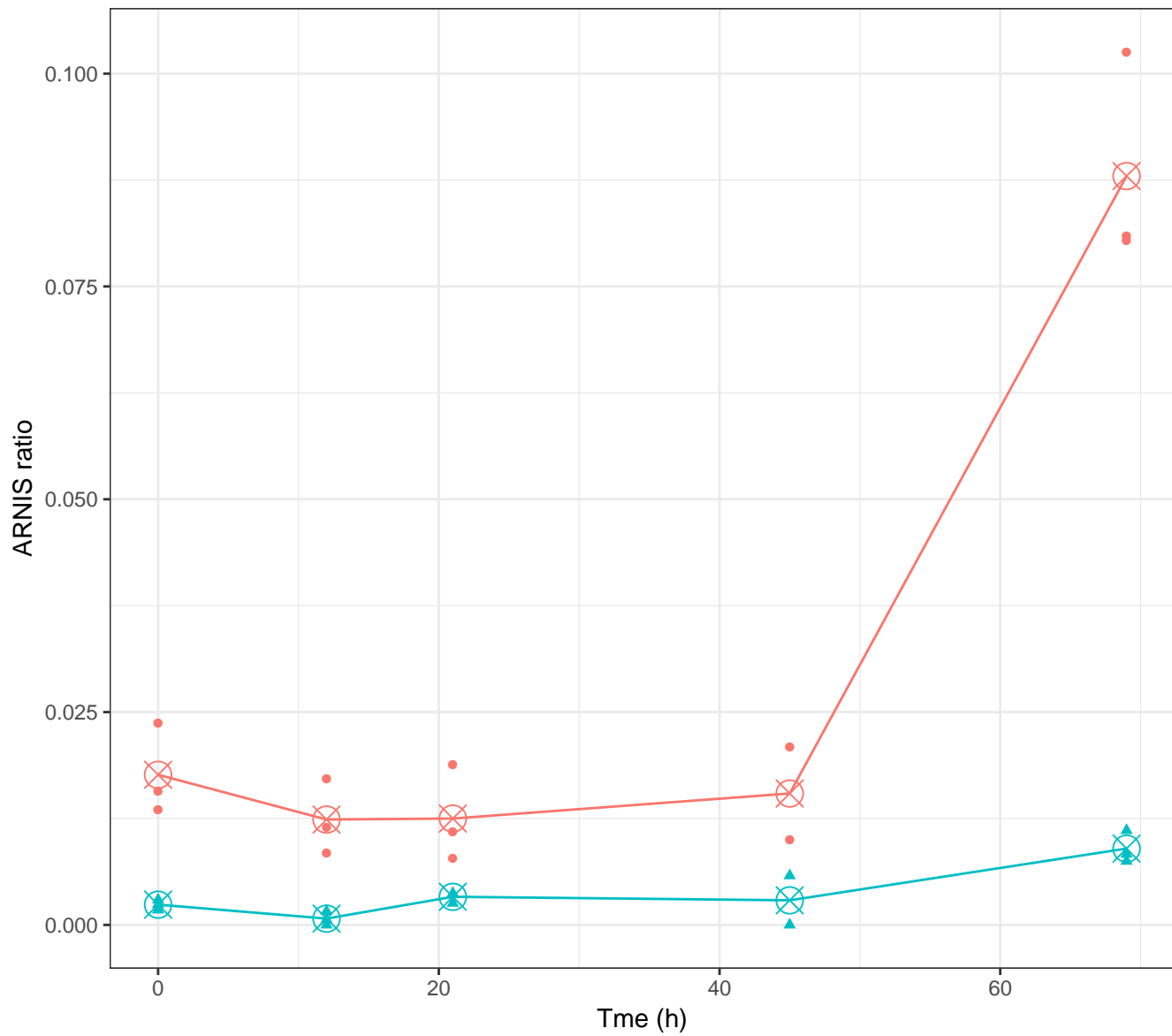
OTU.517_Bacteroidetes_Pedobacter

Treatment Control Filtered-1micron



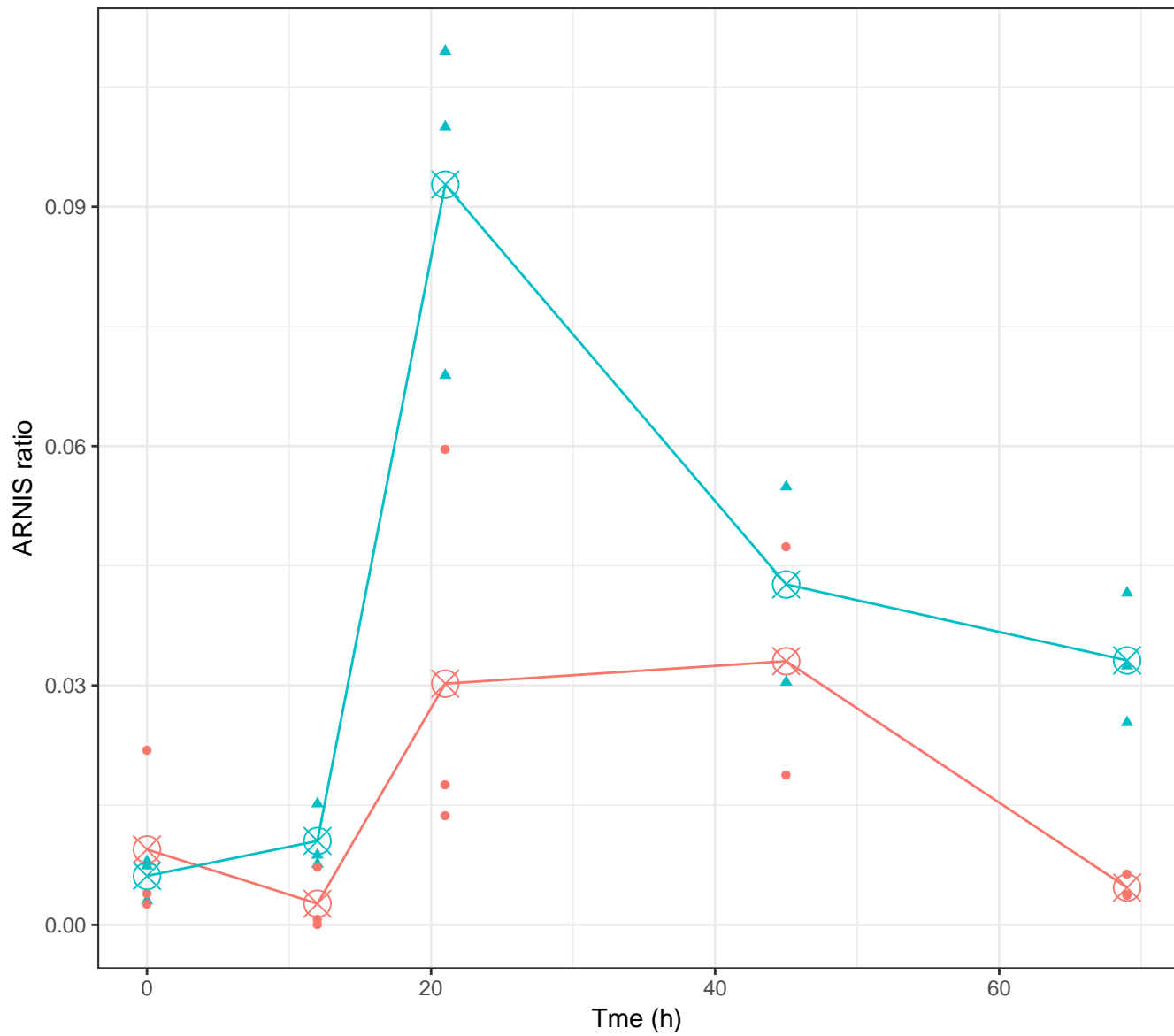
OTU.294_Alphaproteobacteria_Caulobacter

Treatment Control Filtered-1micron



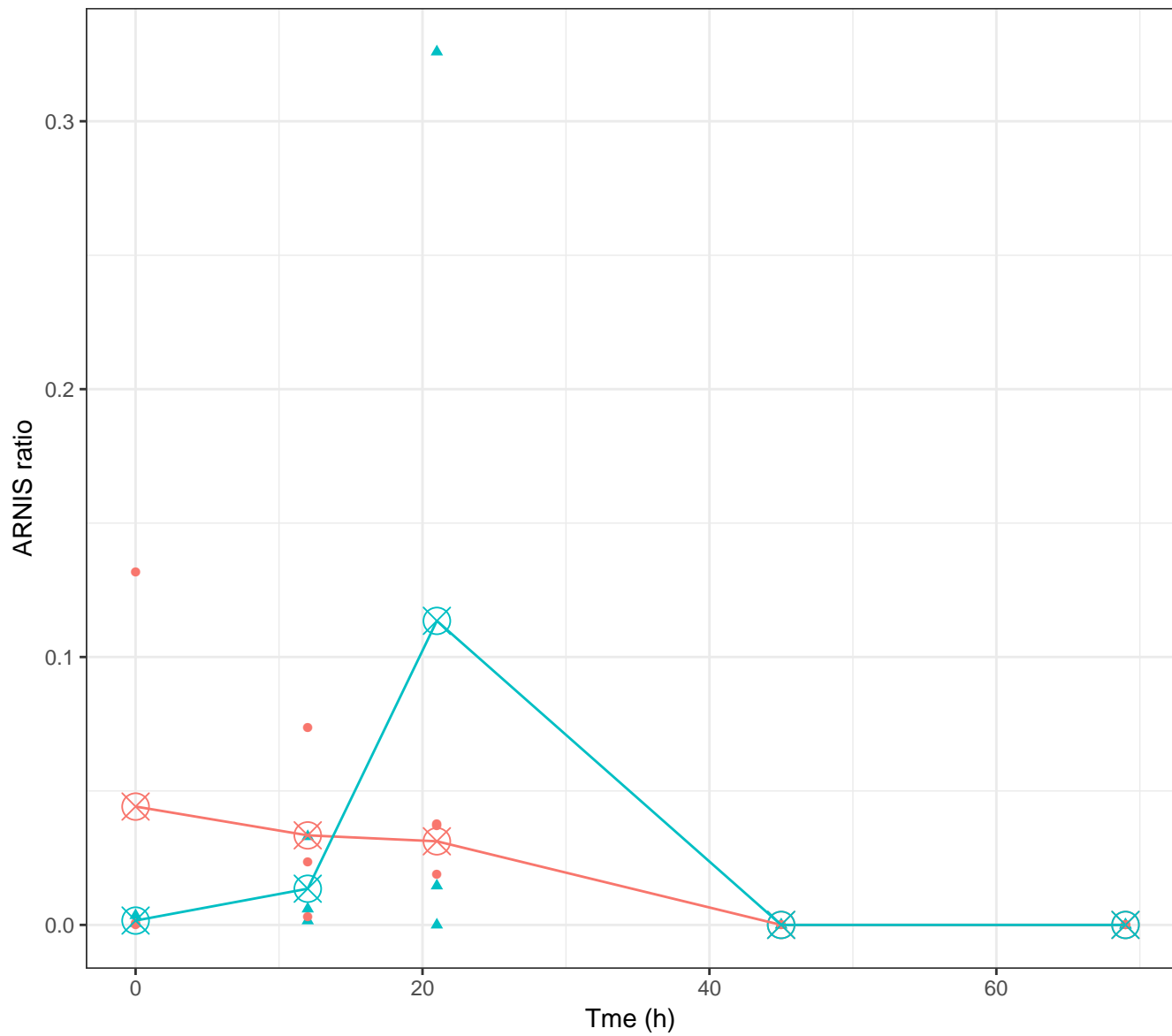
OTU.137_Bacteroidetes_NS11.12_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron



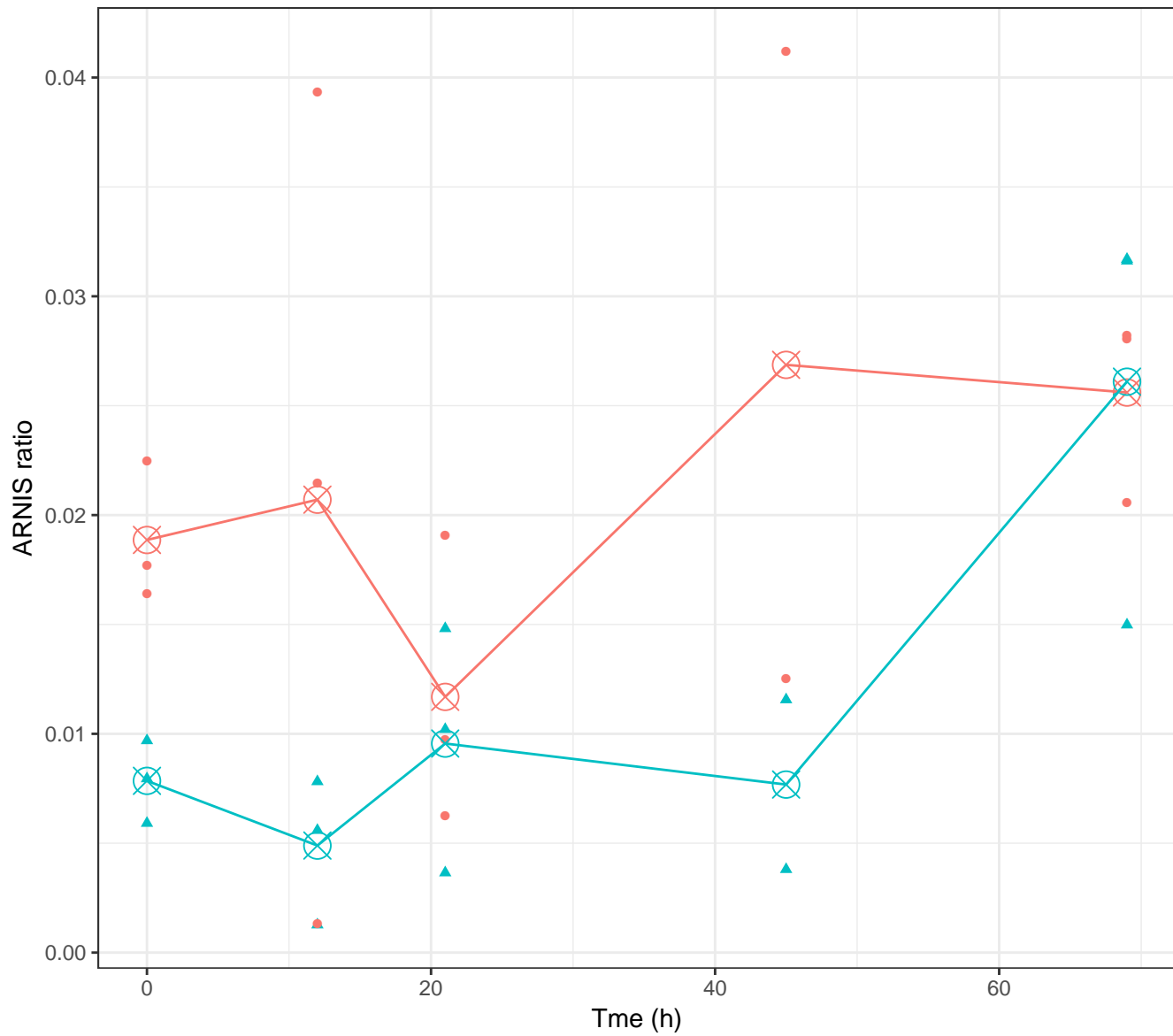
OTU.298_Gammaproteobacteria_Acinetobacter

Treatment Control Filtered-1micron



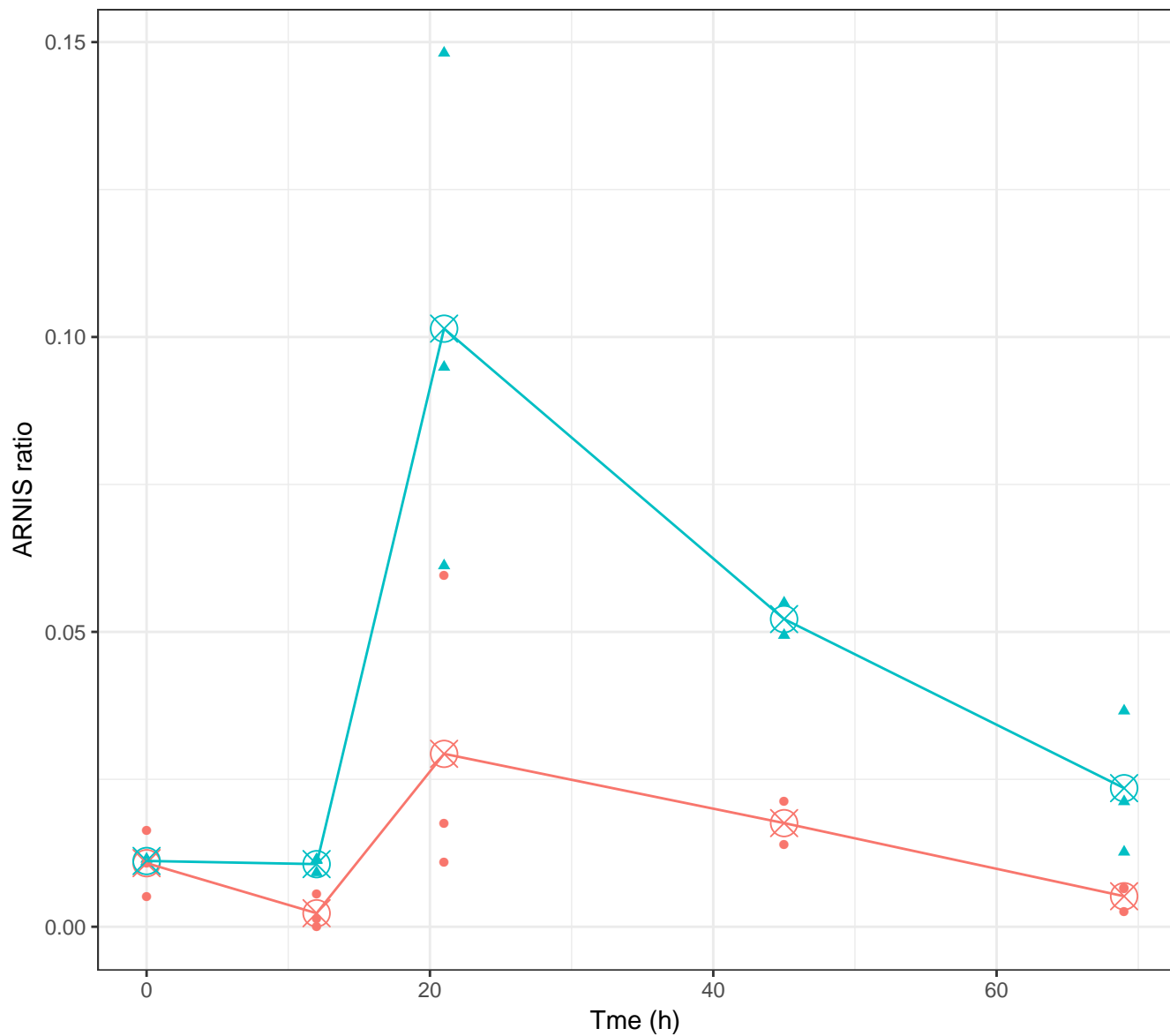
OTU.292_Bacteroidetes_Cytophagaceae

Treatment ⊗ Control ⊗ Filtered-1micron



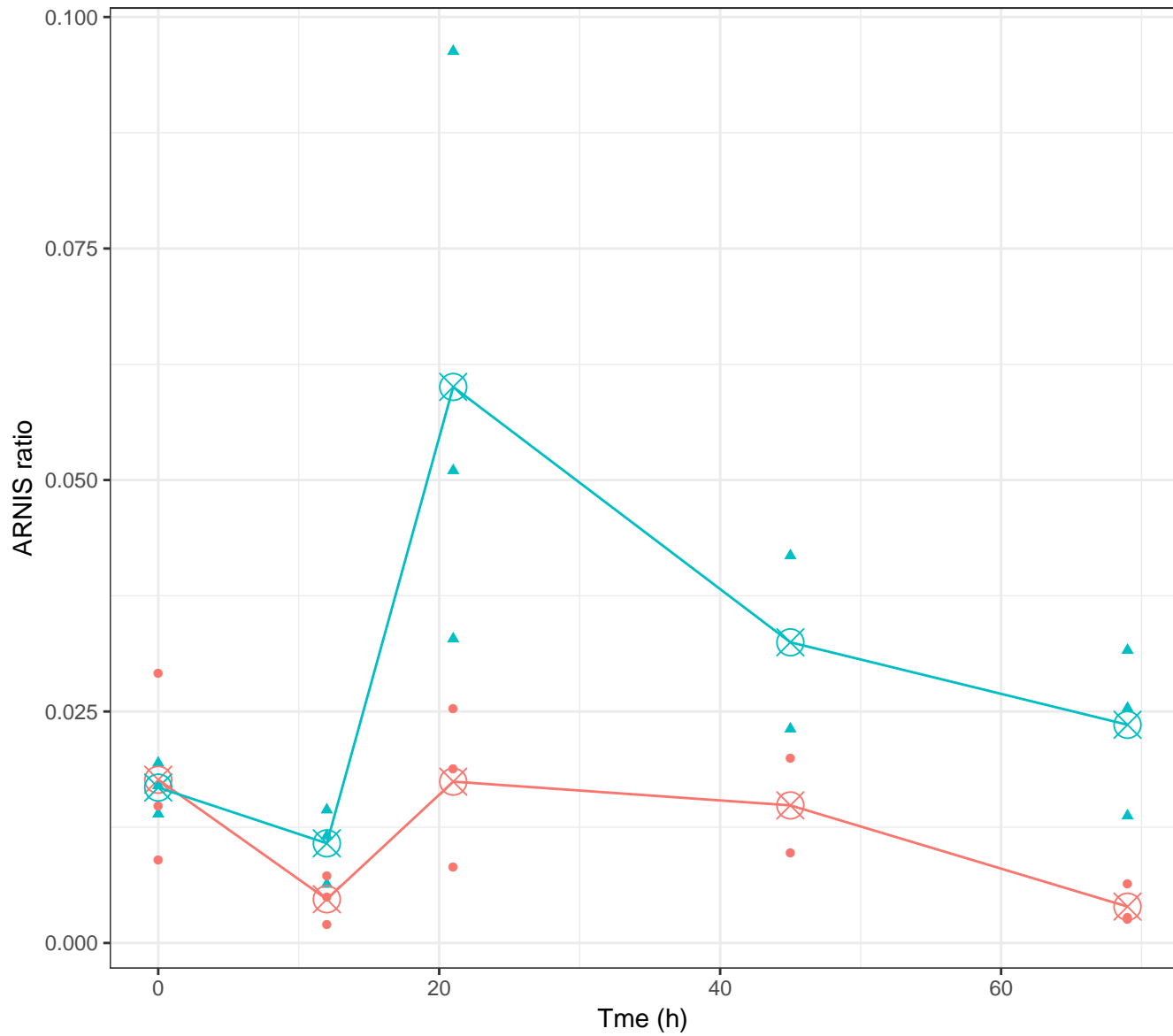
OTU.33_Bacteroidetes_Fluviicola

Treatment Control Filtered-1micron



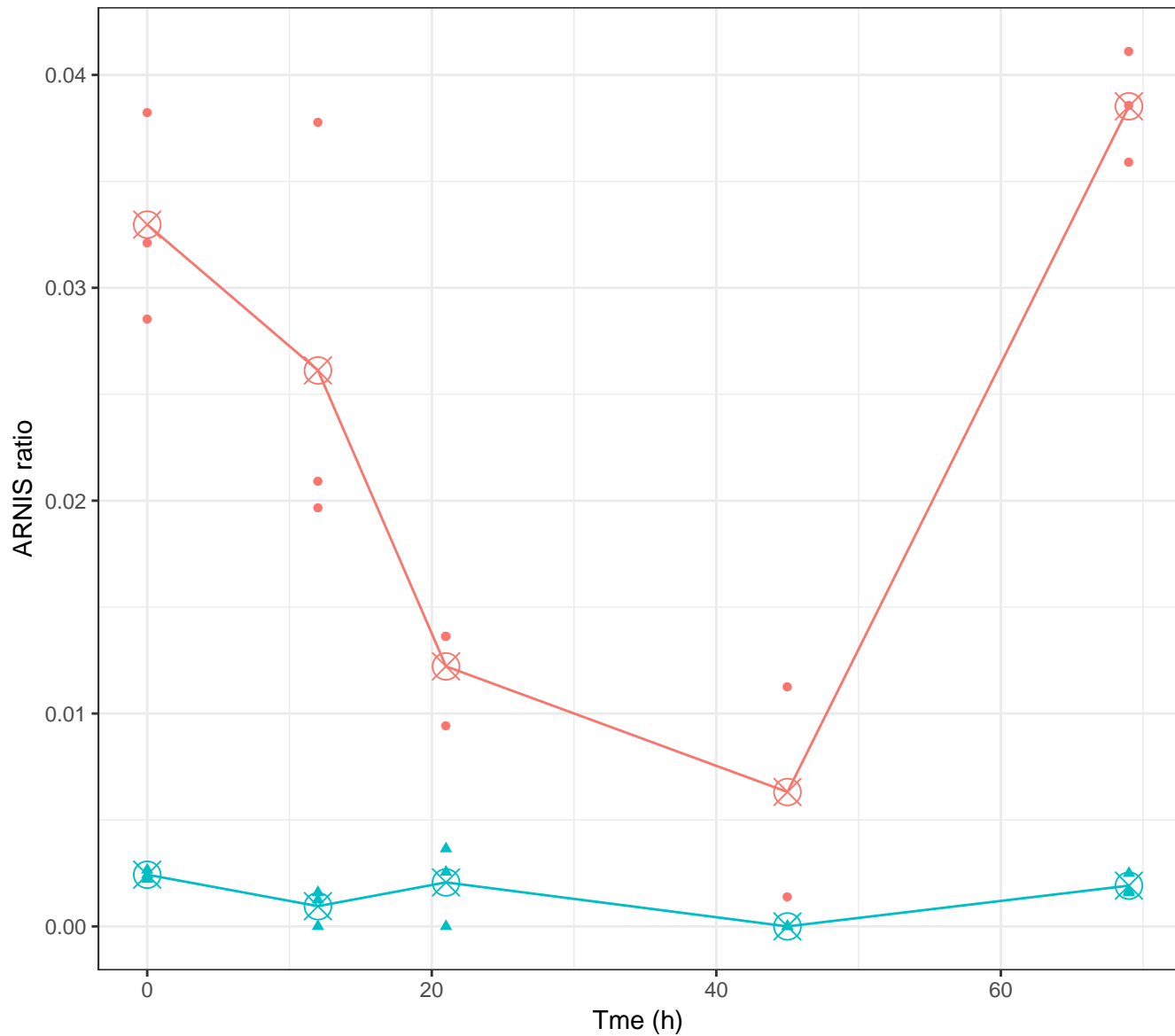
OTU.34_Bacteroidetes_Sphingobacteriales

Treatment Control Filtered-1micron





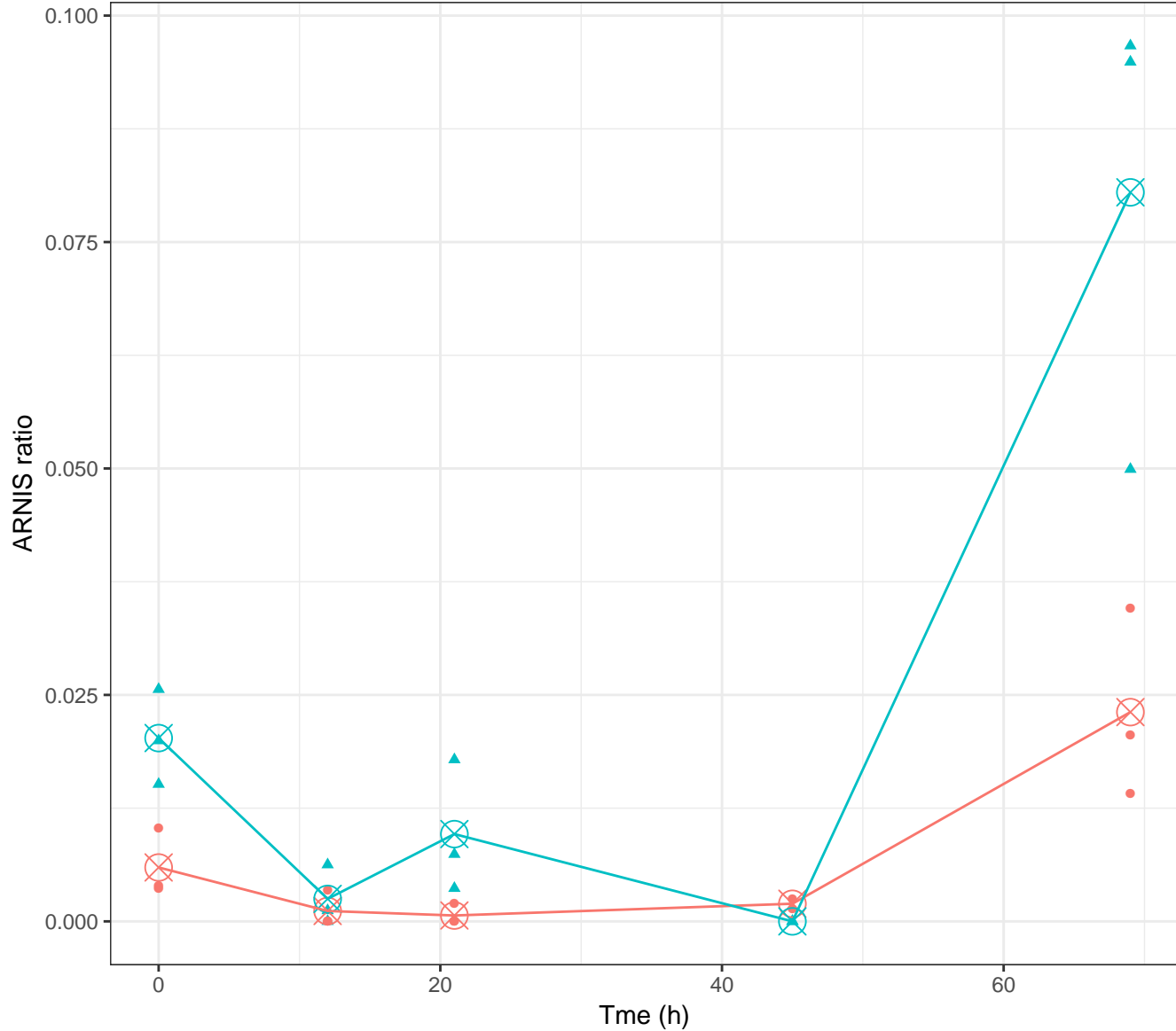
OTU.302_Betaproteobacteria_Lautropia

Treatment Control Filtered-1micron



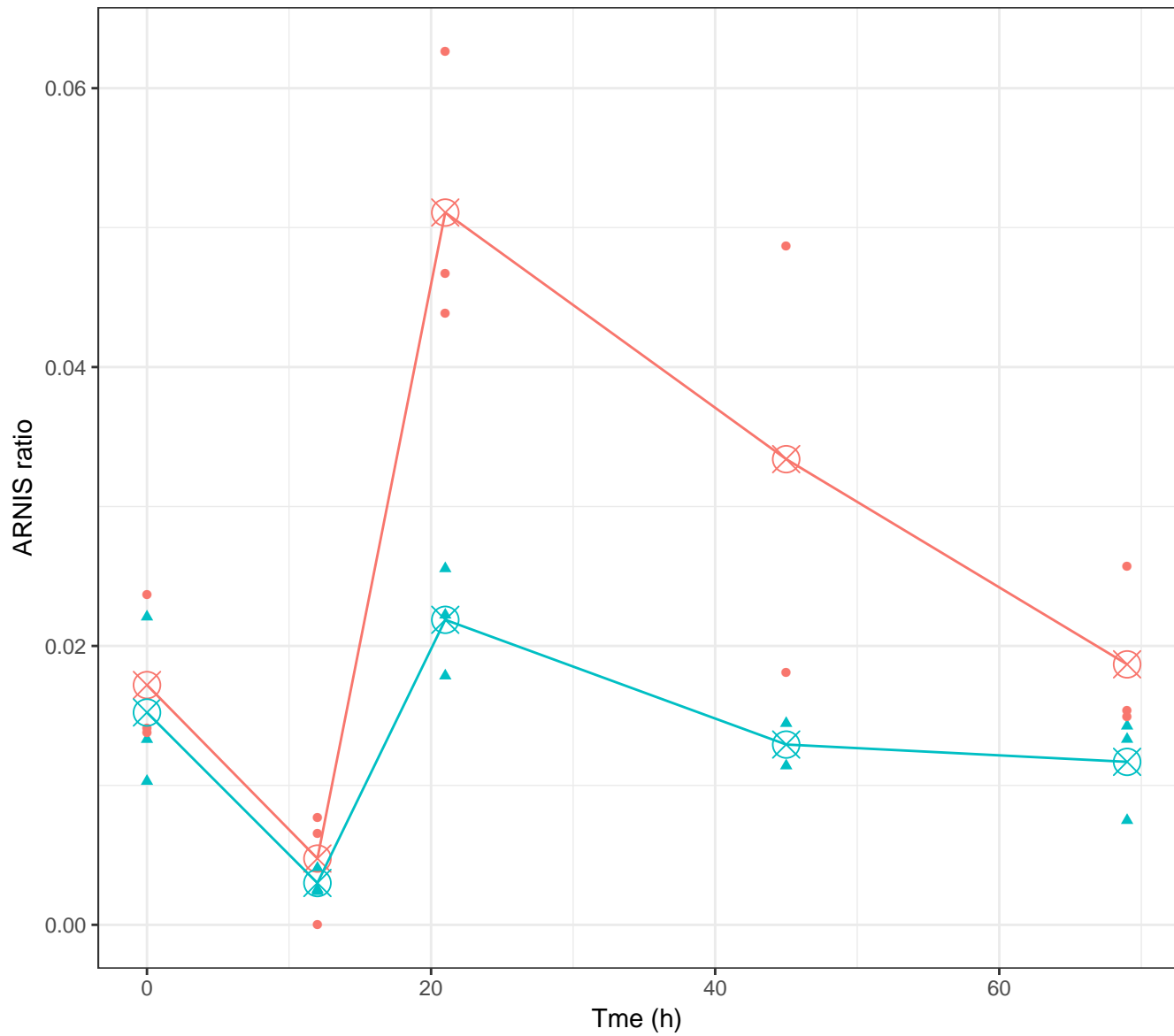
OTU.556_Actinobacteria_Candidatus_Planktophila

Treatment  Control  Filtered-1micron



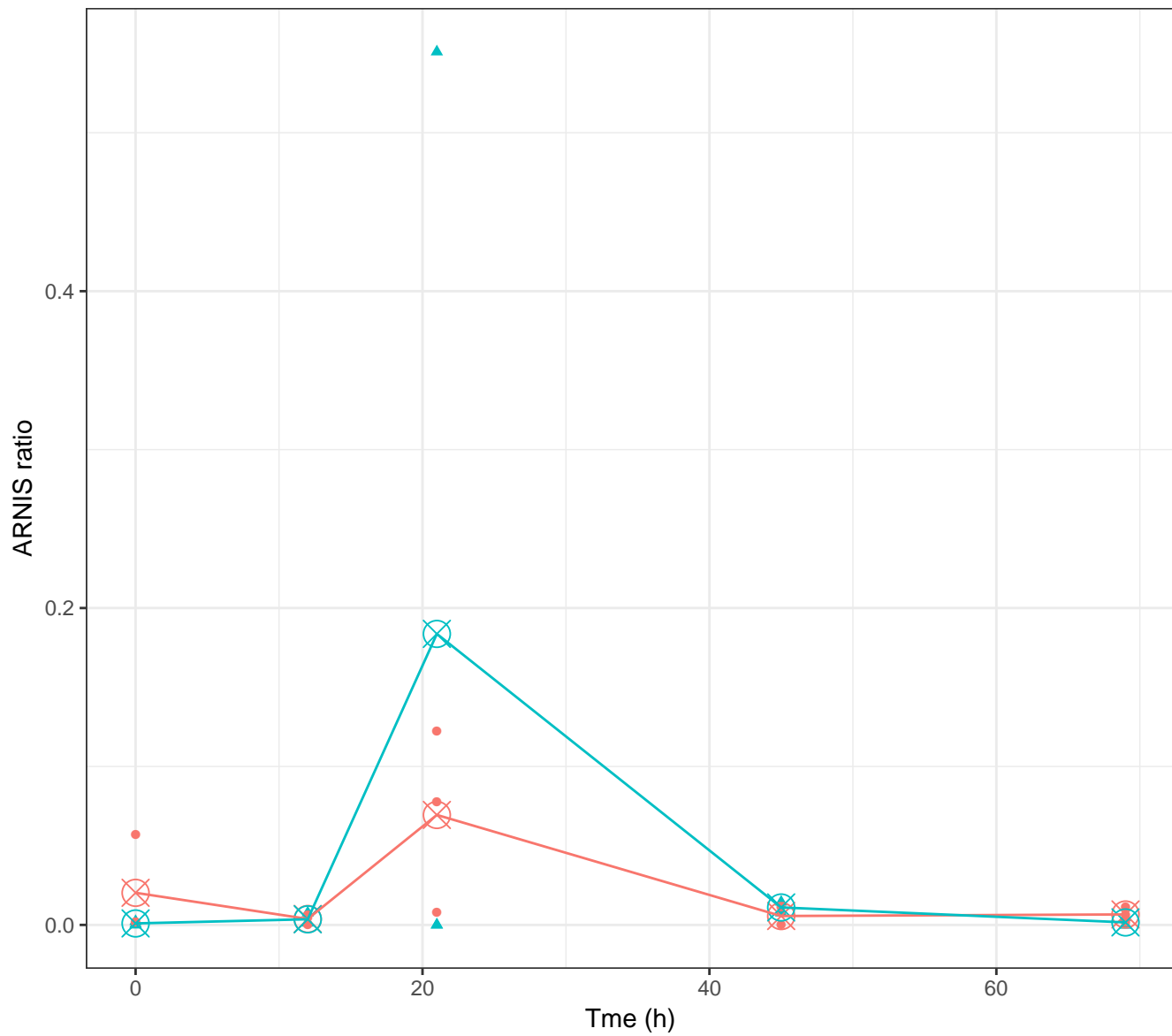
OTU.303_Deltaproteobacteria_Peredibacter

Treatment Control Filtered-1micron



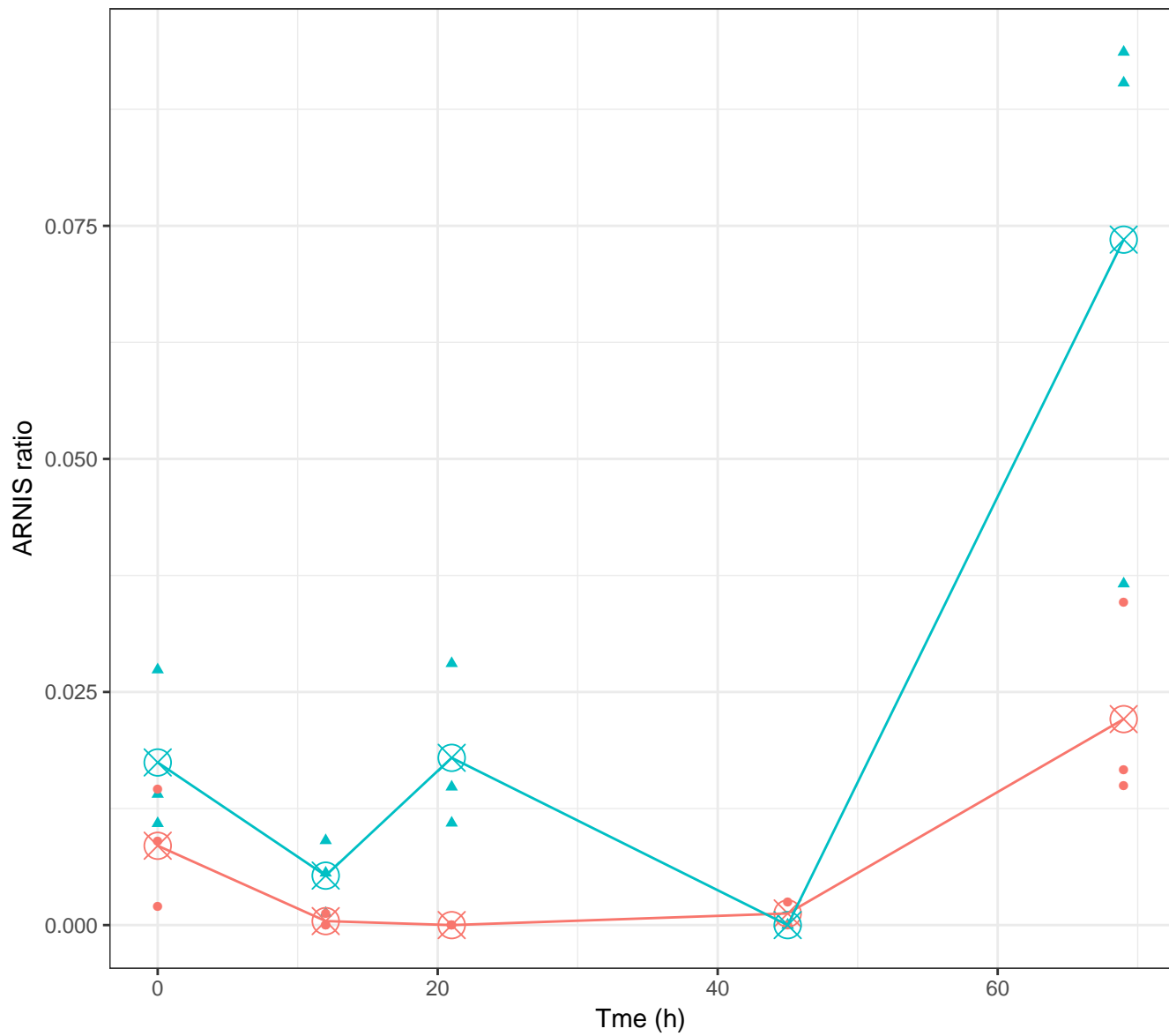


OTU.371_Gammaproteobacteria_Silanimonas

Treatment Control Filtered-1micron

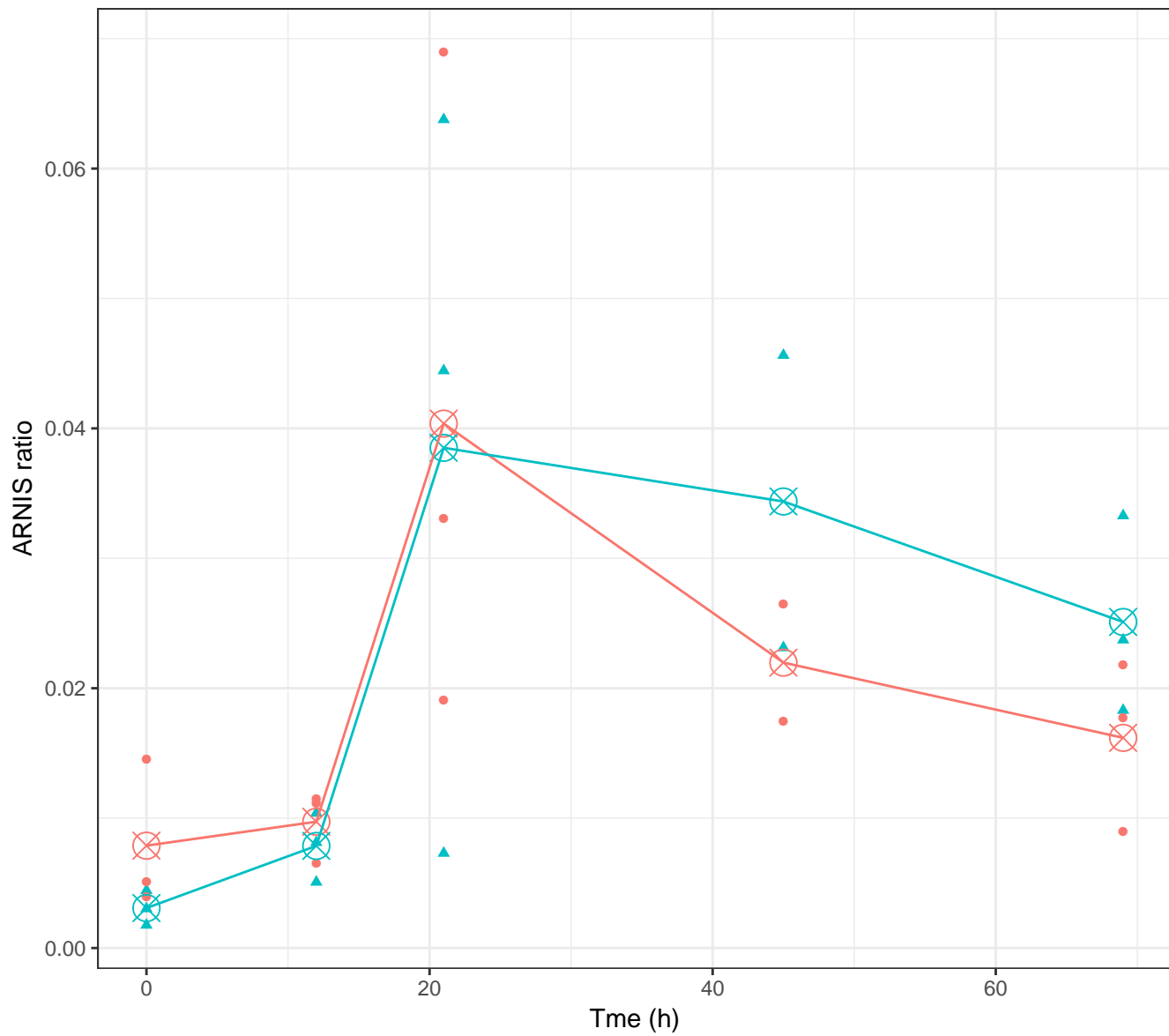


OTU.507_Actinobacteria_clade_acl.A1

Treatment  Control  Filtered-1micron

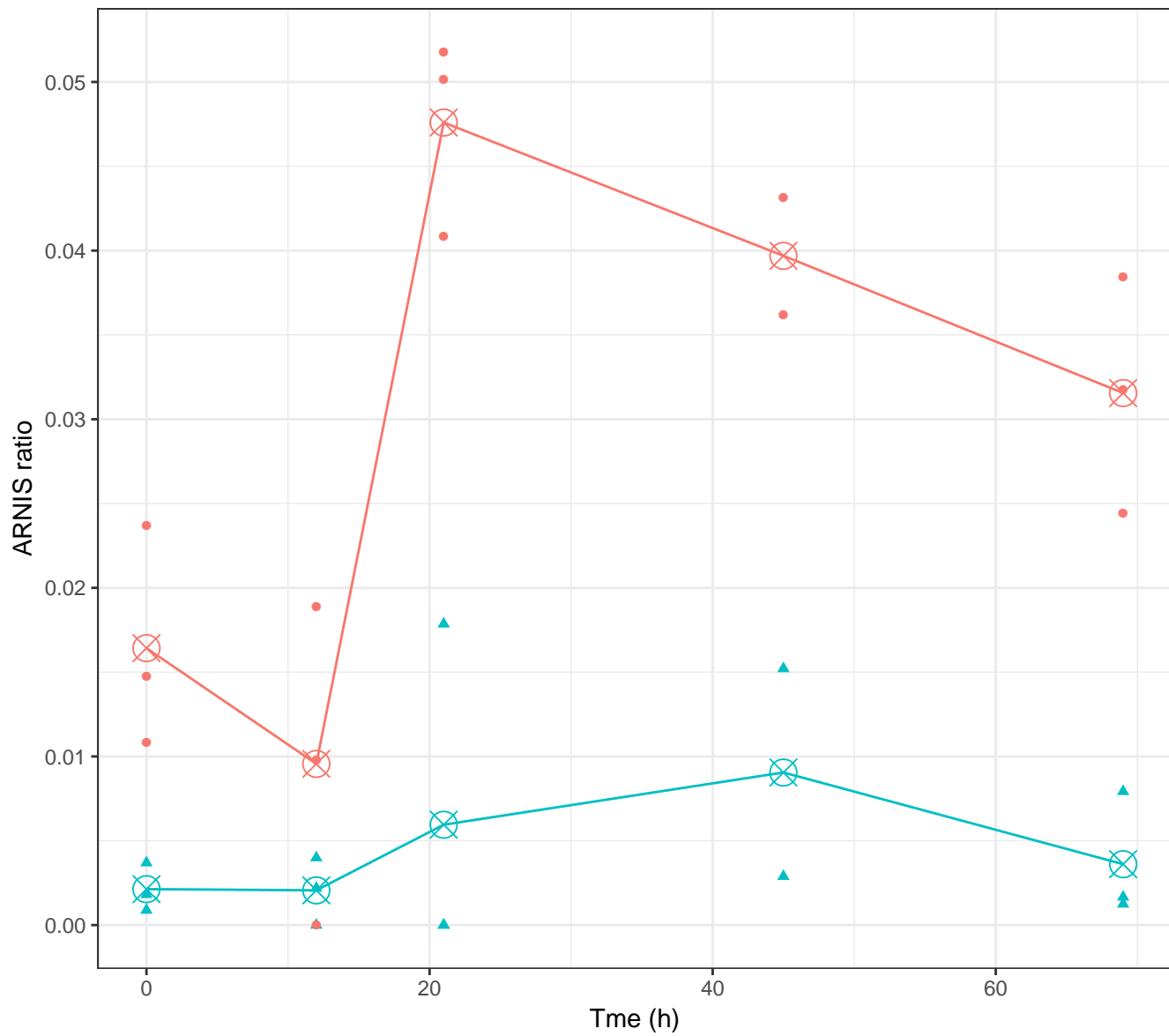
OTU.76_Bacteroidetes_Flavobacterium

Treatment Control Filtered-1micron



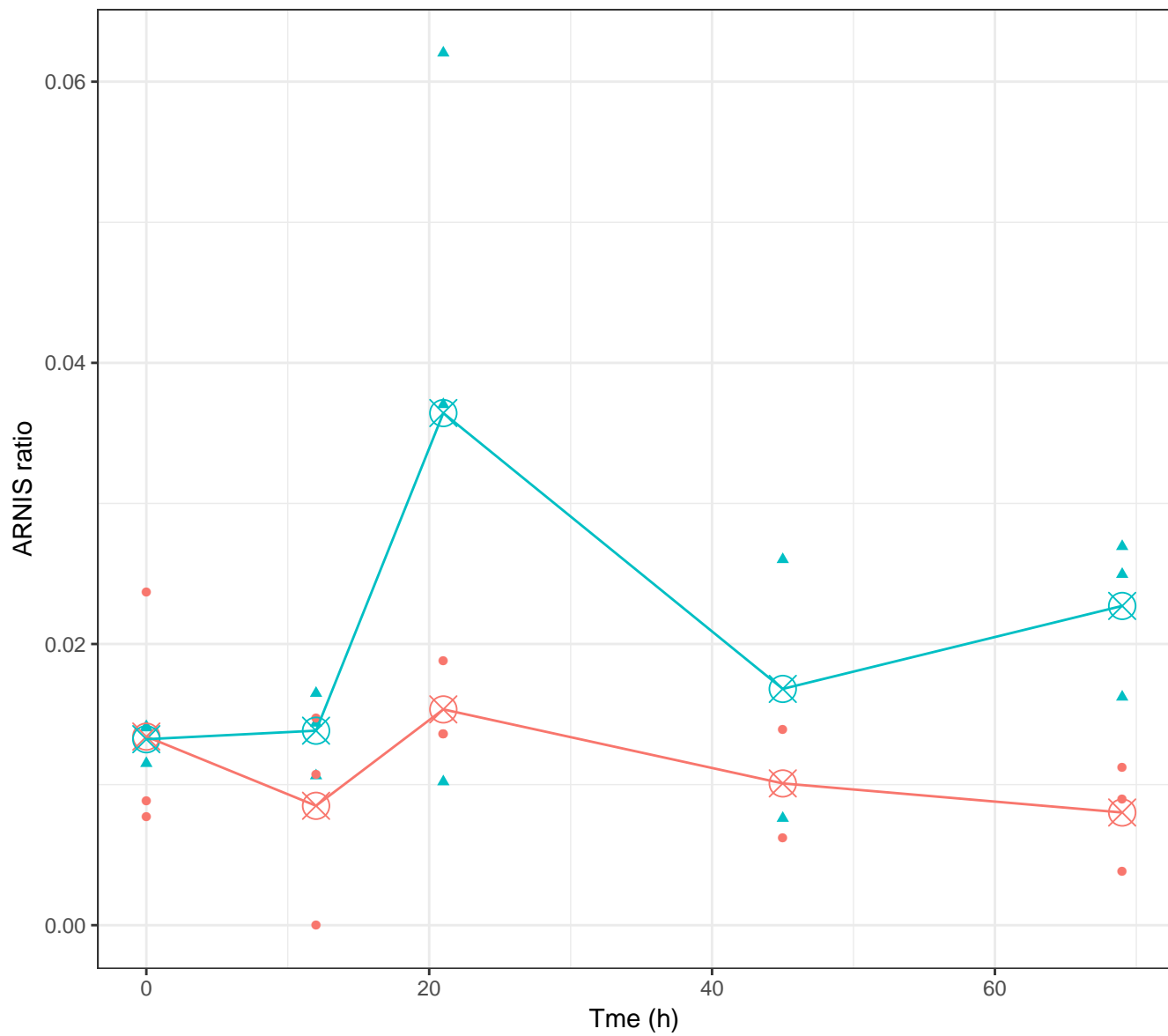
OTU.317_Bacteroidetes_PHOS.HE51

Treatment Control Filtered-1micron



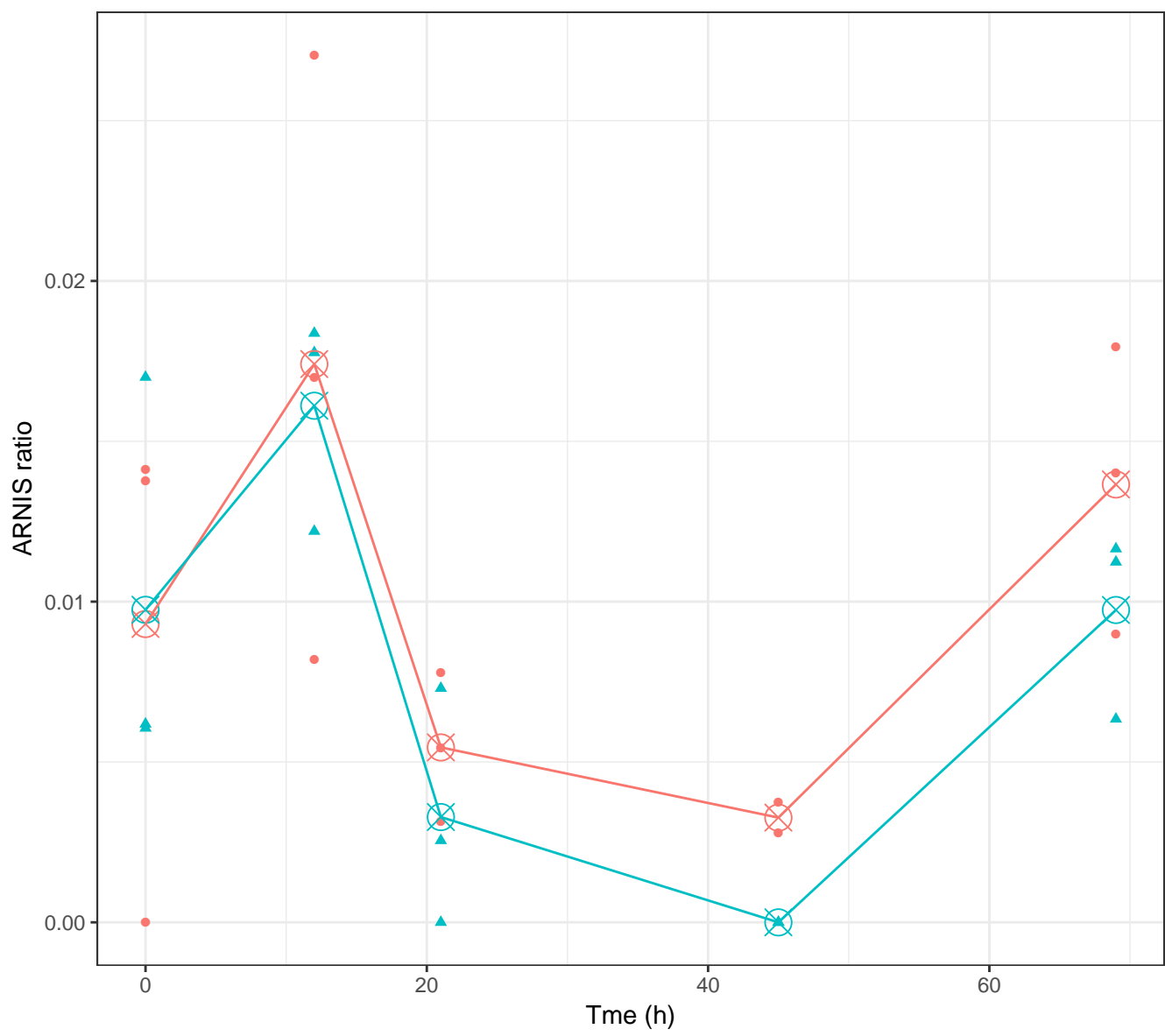
OTU.52_Actinobacteria_clade_acl.C1

Treatment Control Filtered-1micron





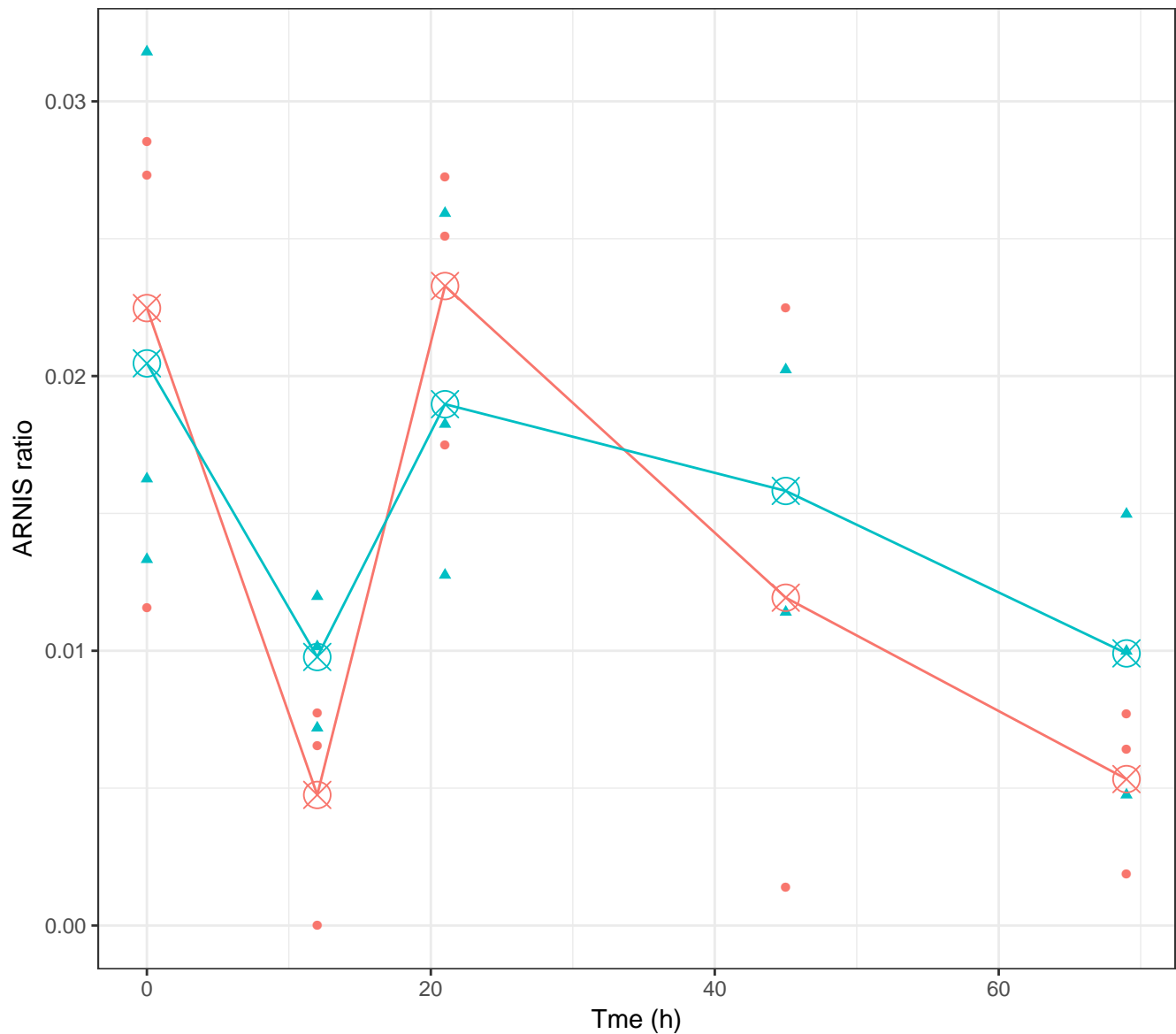
OTU.32_Actinobacteria_Illumatobacter

Treatment Control Filtered-1micron



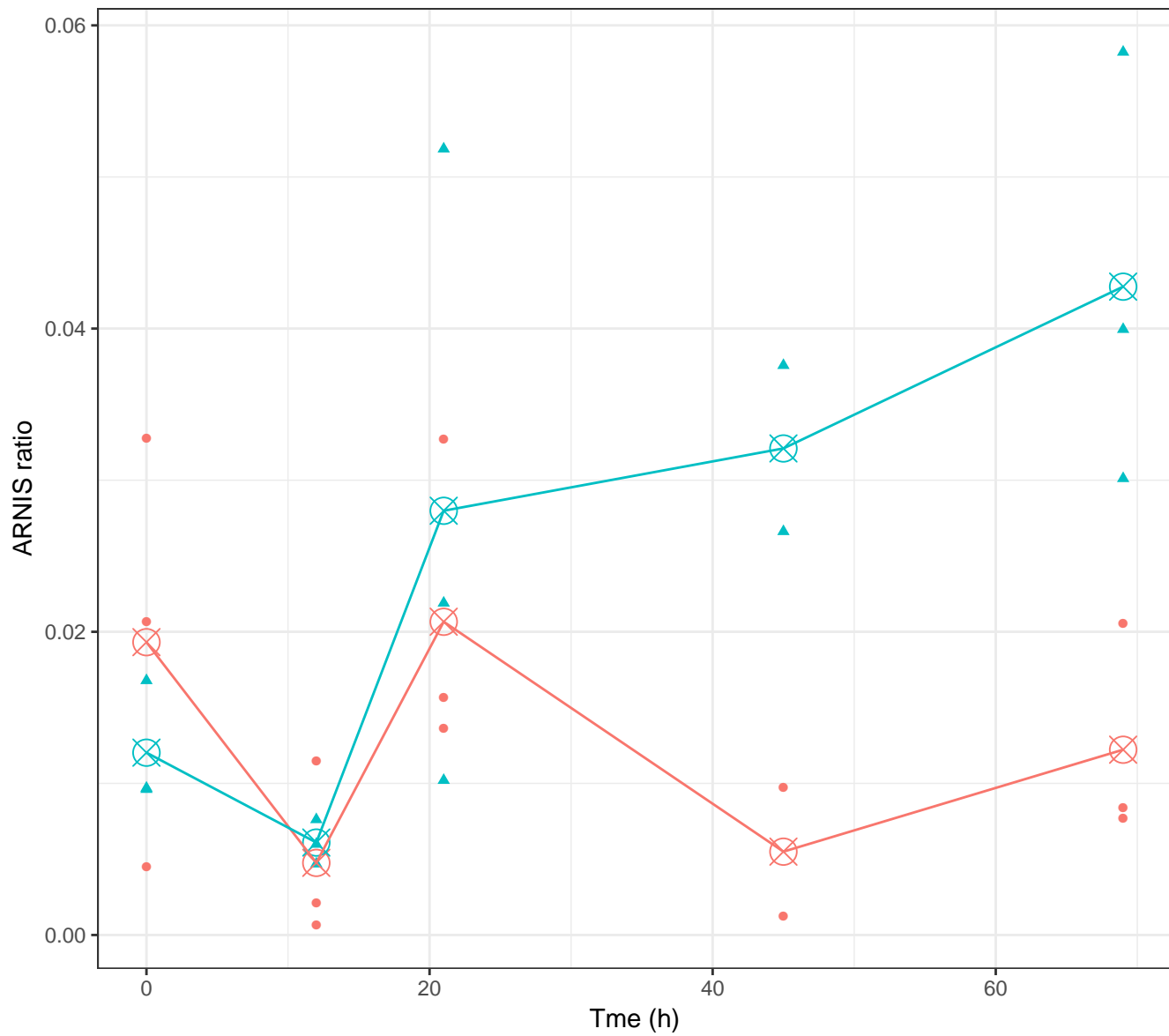
OTU.606_Betaproteobacteria_Sulfuritalea

Treatment  Control  Filtered-1micron



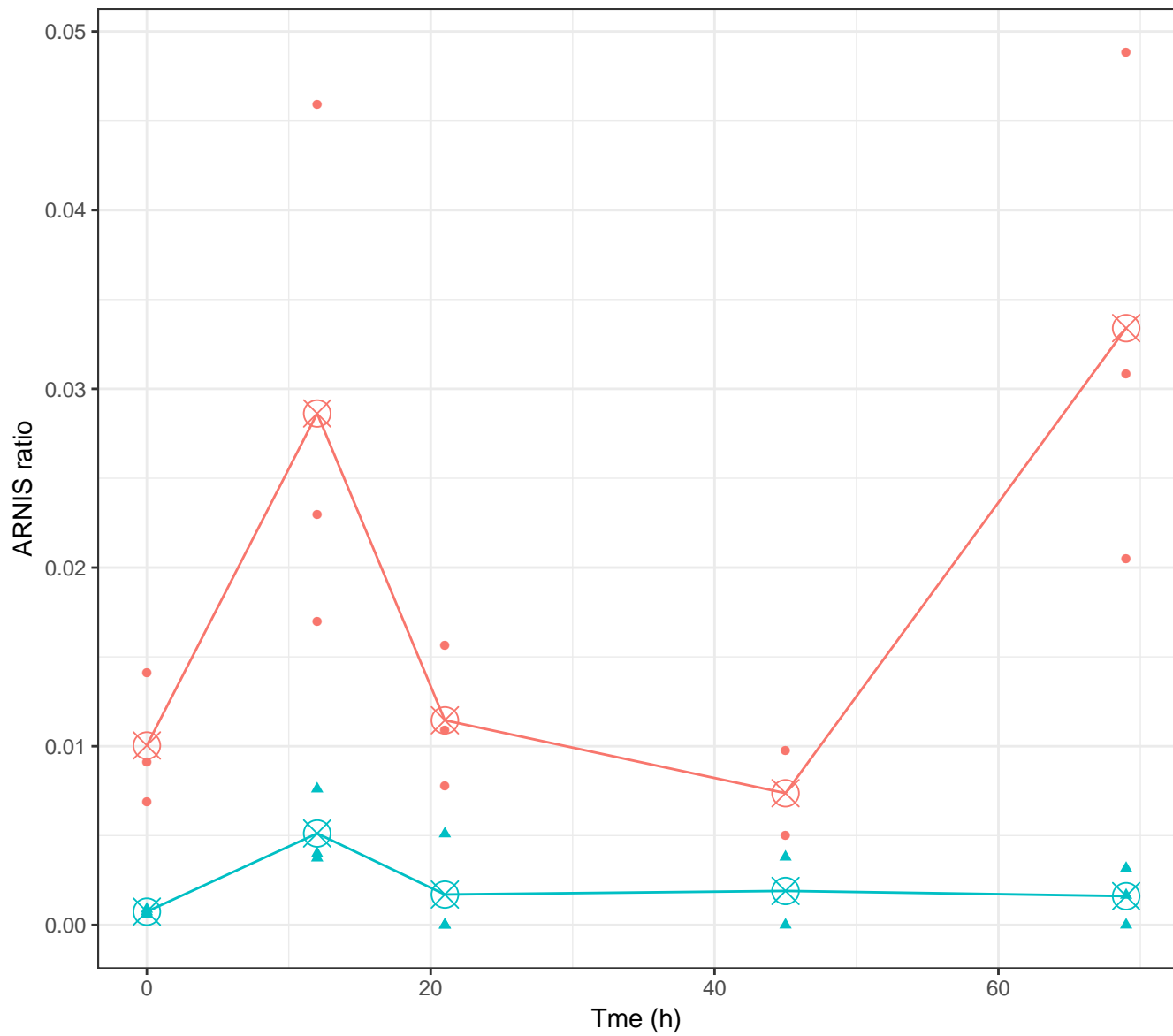
OTU.527_Verrucomicrobia_Chthoniobacterales

Treatment Control Filtered-1micron





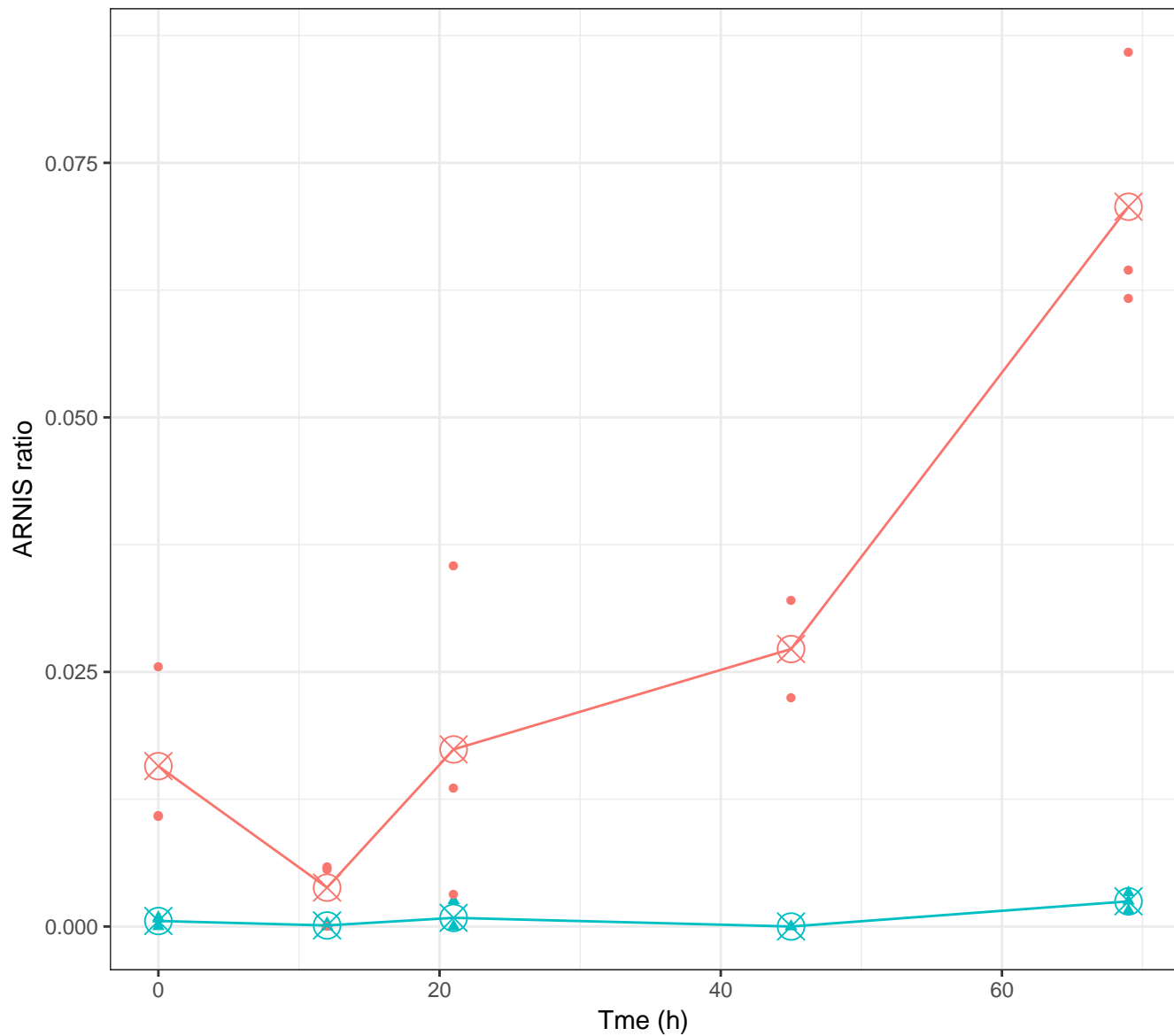
OTU.388_Actinobacteria_CL500.29_marine_group.freshwater_acIV.C_clade

Treatment ⊗ Control ⊗ Filtered-1micron



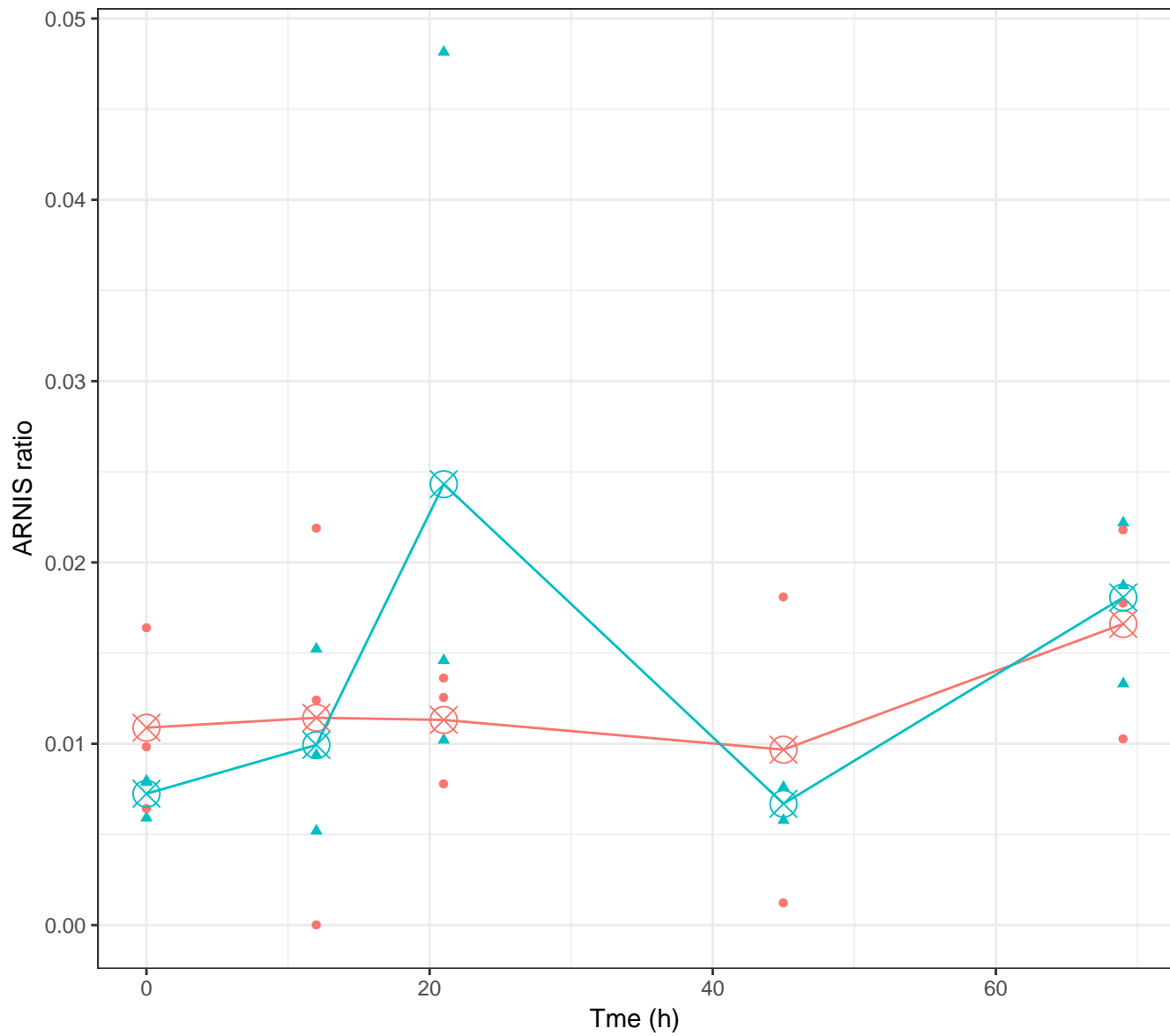
OTU.496_Alphaproteobacteria_Acetobacteraceae

Treatment  Control  Filtered-1micron





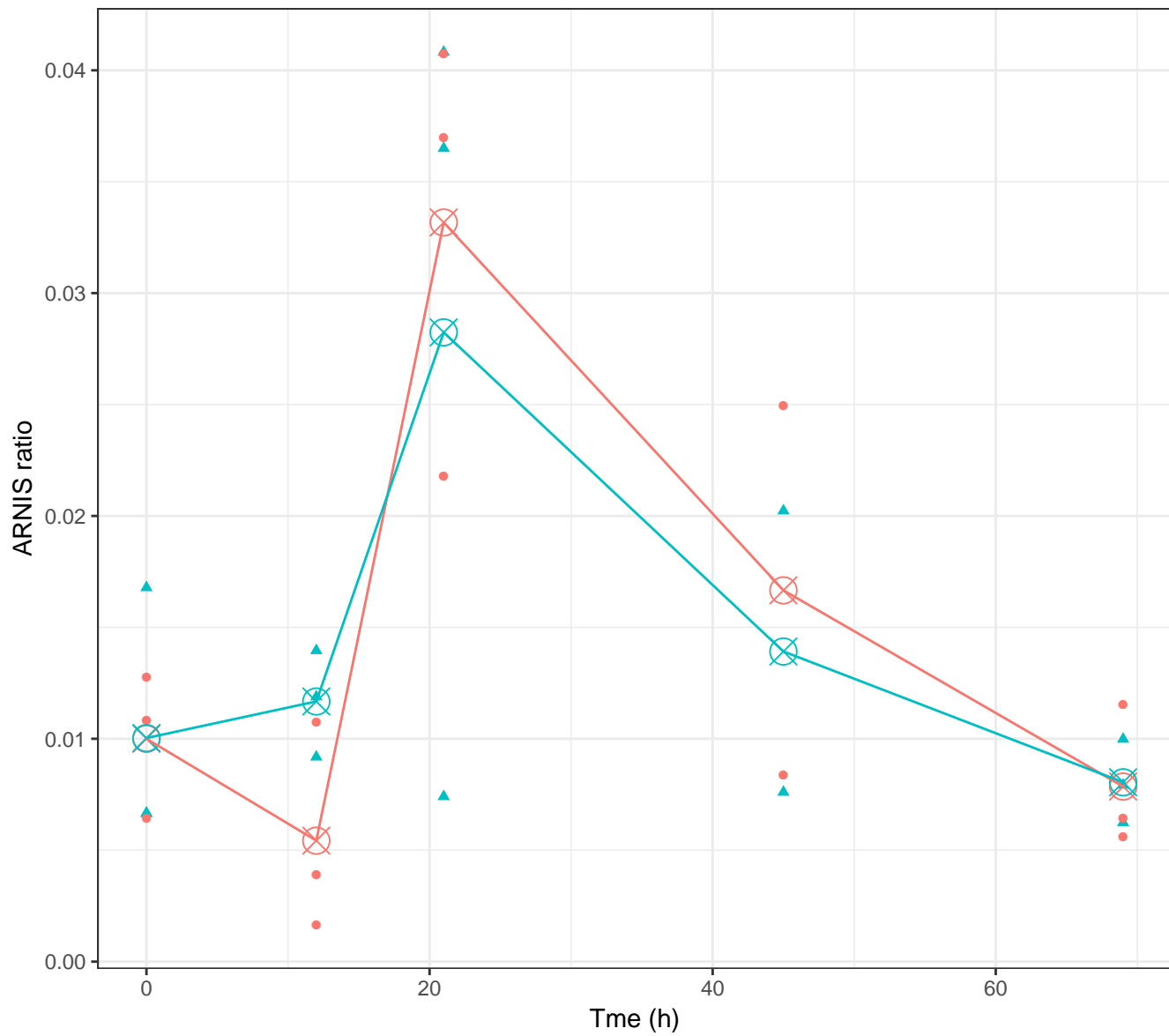
OTU.54_Actinobacteria_Acidimicrobiales

Treatment Control Filtered-1micron



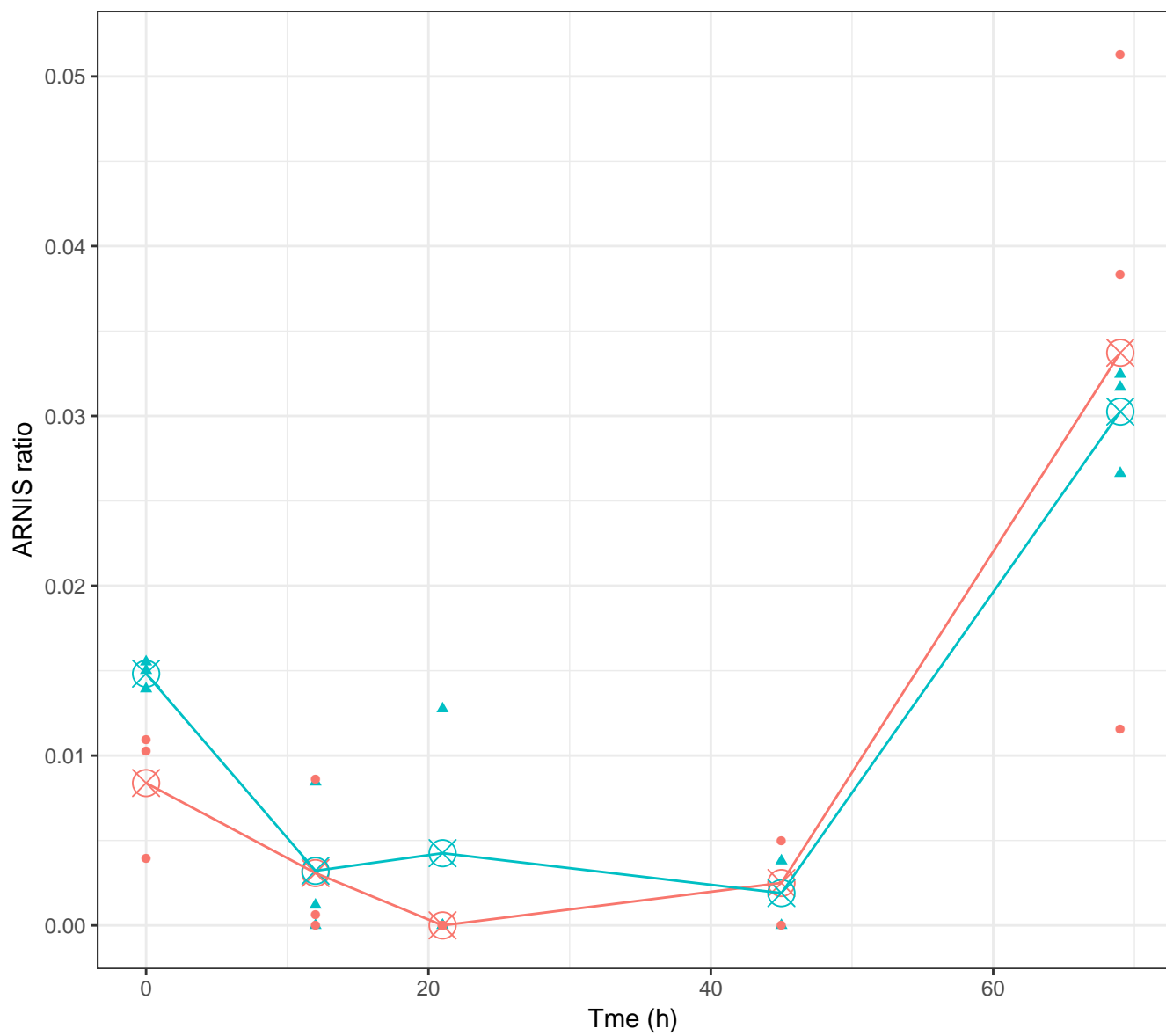
OTU.6410_Bacteroidetes_Flavobacteriaceae

Treatment  Control  Filtered-1micron



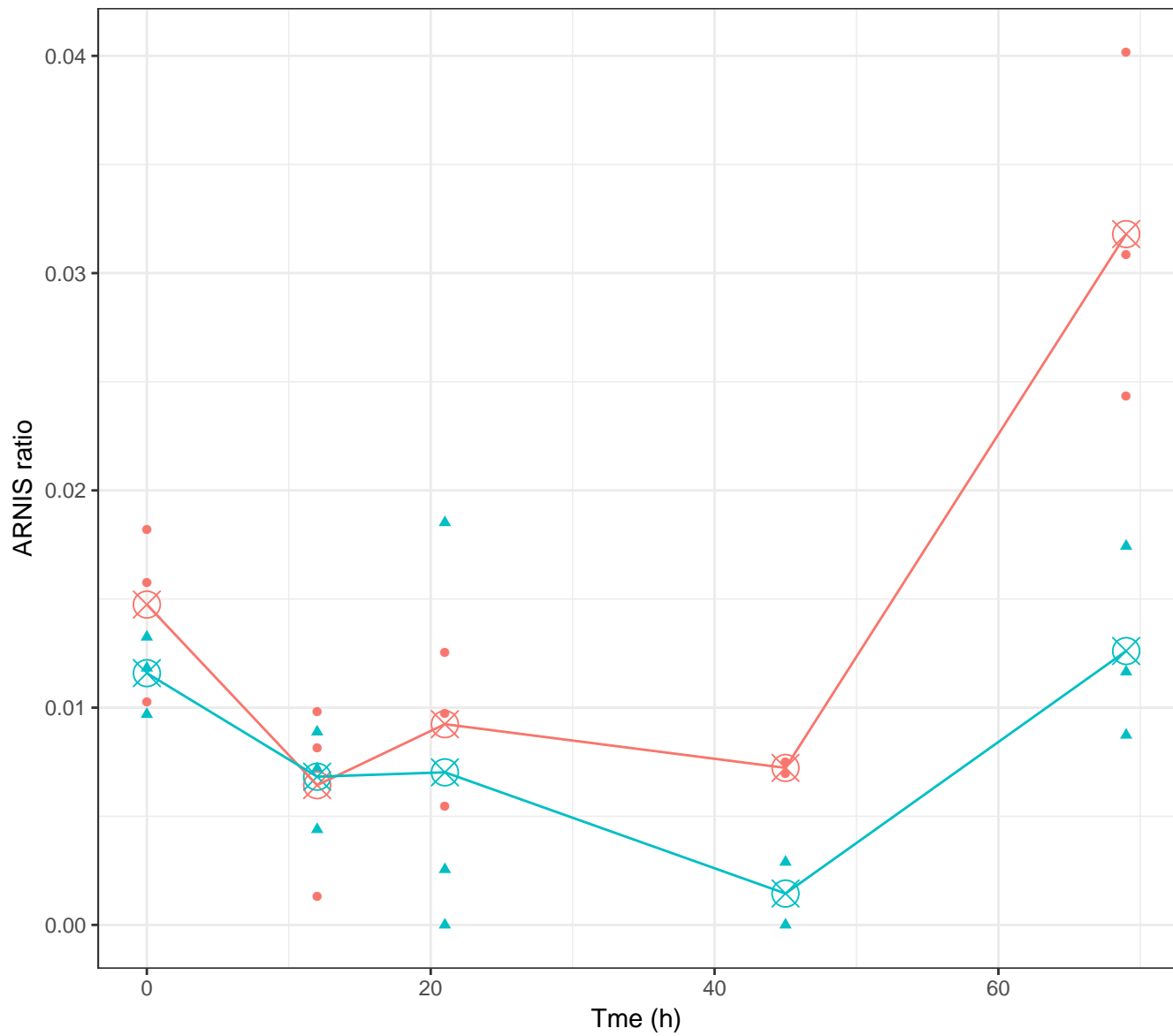
OTU.473_Actinobacteria_Candidatus_Limnoluna

Treatment Control Filtered-1micron



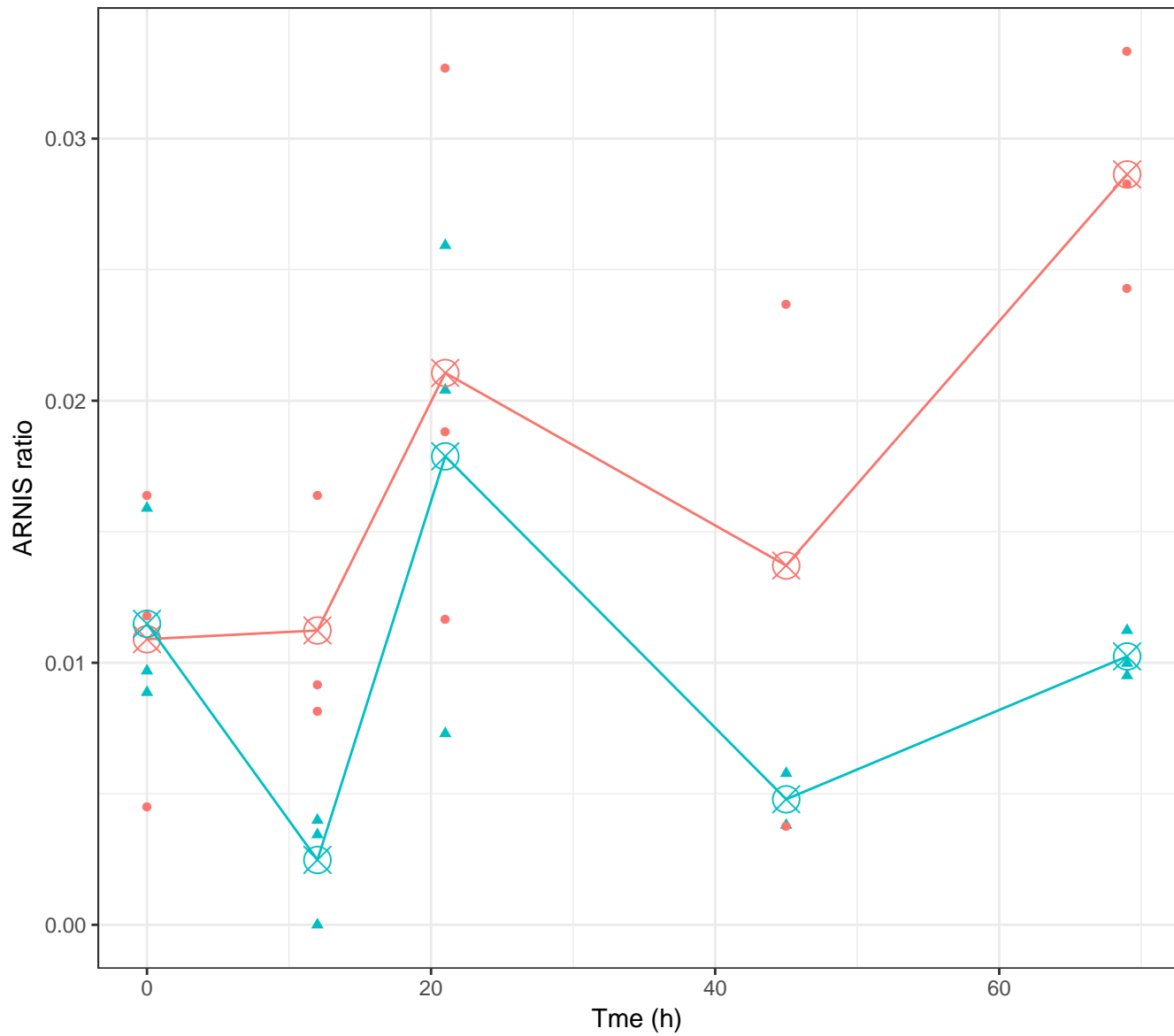
OTU.360_Alphaproteobacteria_Rhodospirillales

Treatment Control Filtered-1micron



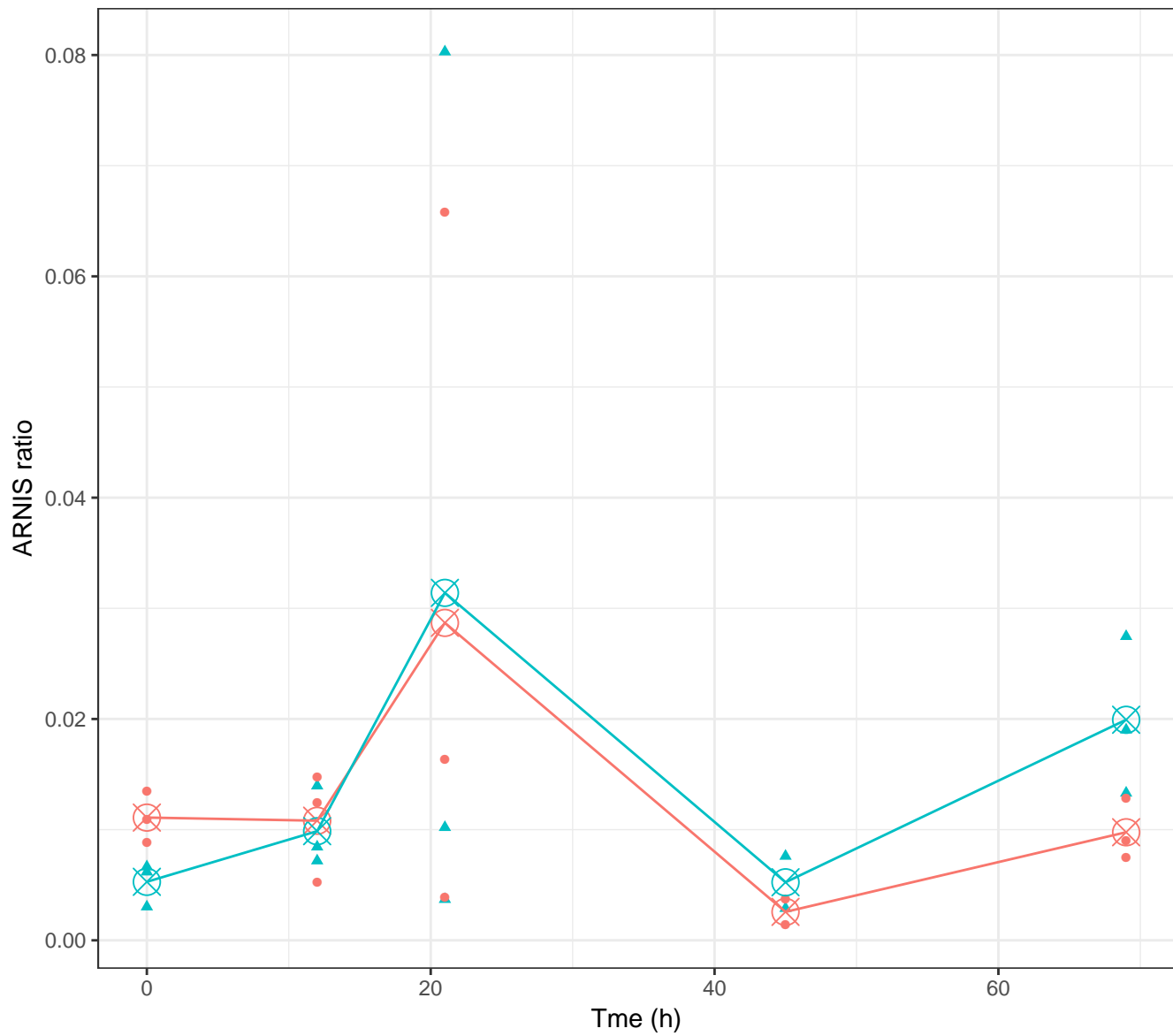
OTU.917_Verrucomicrobia_FukuN18_freshwater_group

Treatment ⊗ Control ⊗ Filtered-1micron



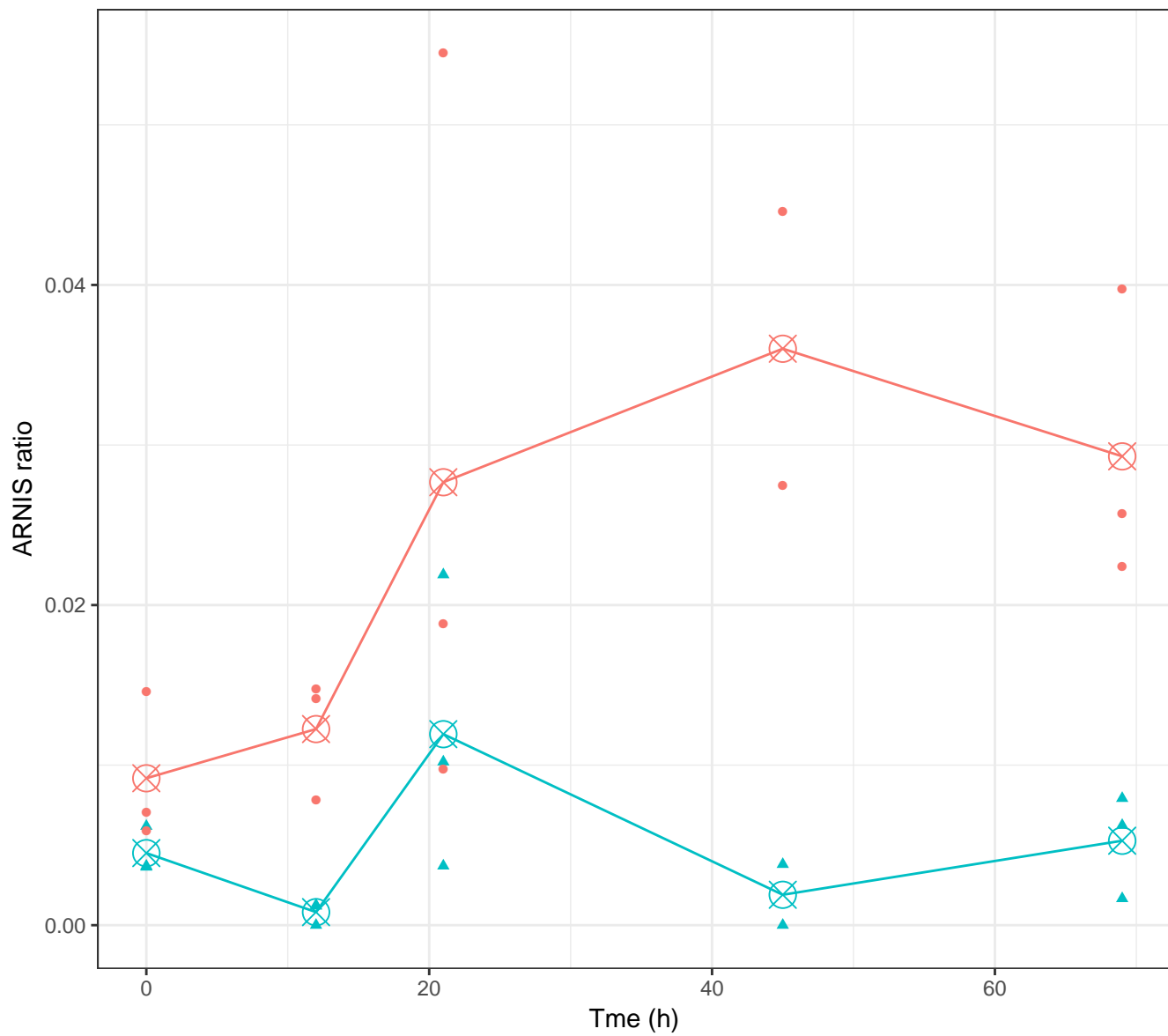
OTU.432_Alphaproteobacteria_Roseomonas

Treatment Control Filtered-1micron



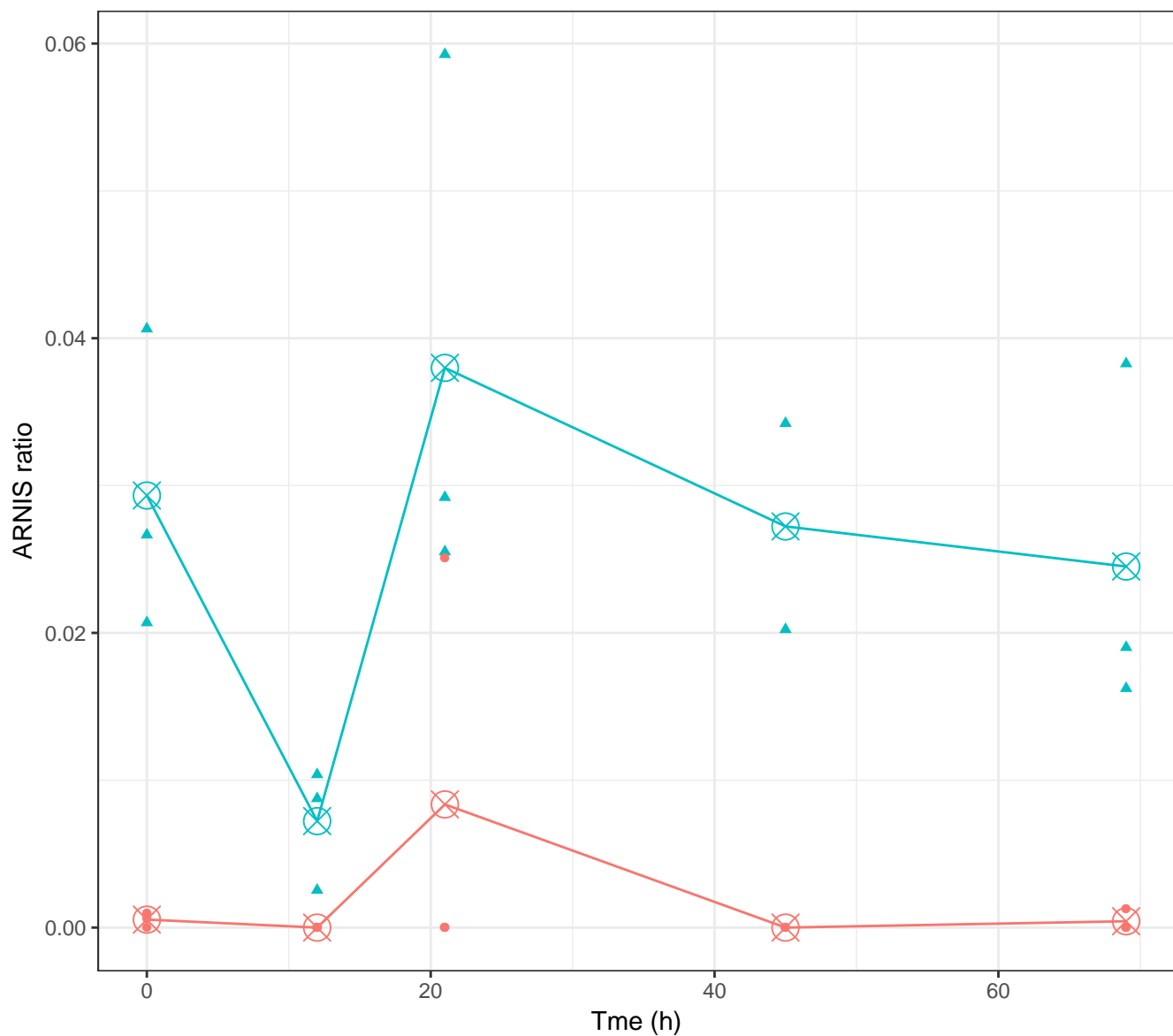
OTU.435_Verrucomicrobia_Verrucomicrobiales_DEV007

Treatment Control Filtered-1micron



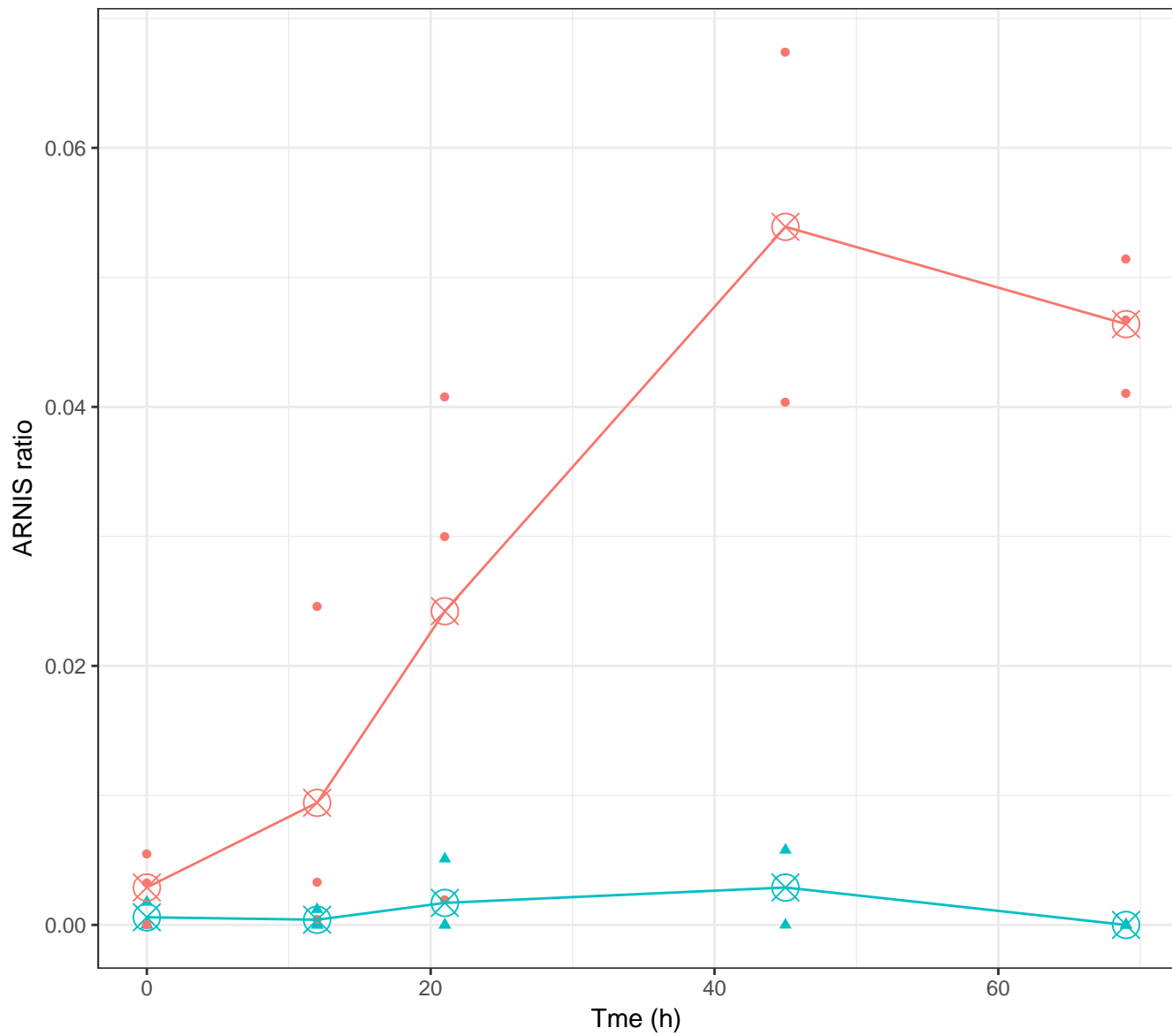
OTU.355_Betaproteobacteria_Collimonas

Treatment Control Filtered-1micron



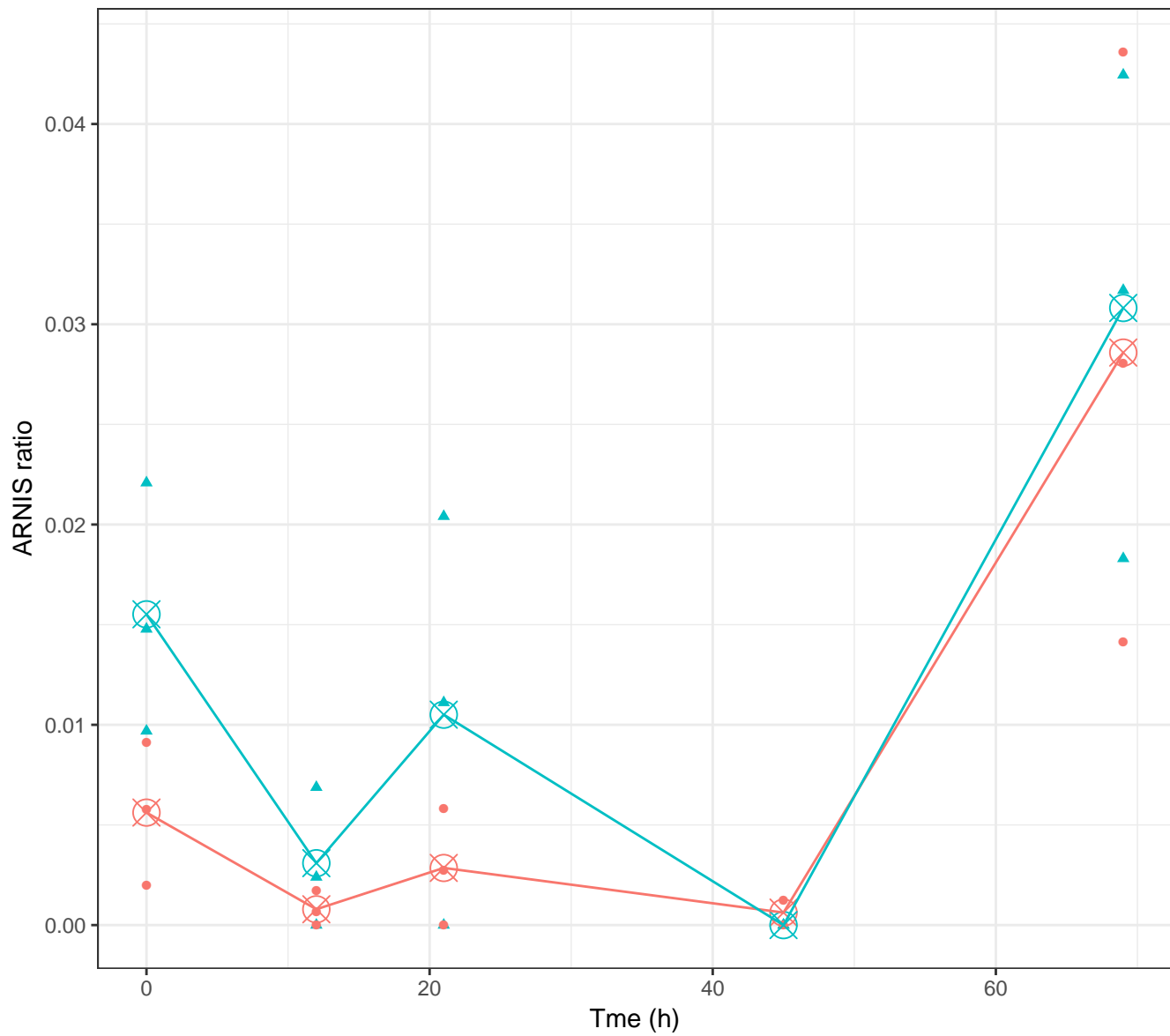
OTU.379_Gammaproteobacteria_CHAB.XI.27

Treatment ⊗ Control ⊗ Filtered-1micron





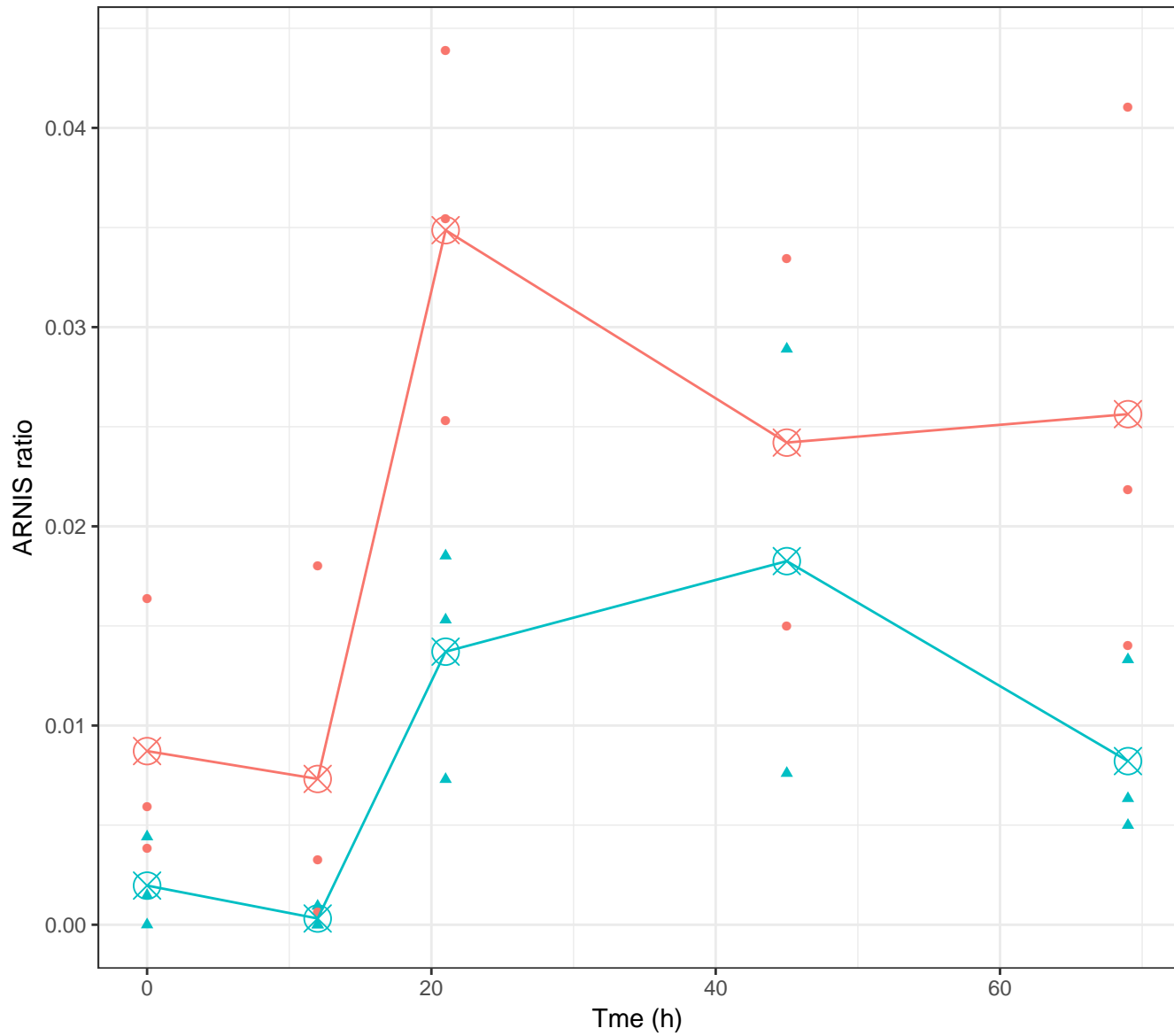
OTU.461_Actinobacteria_clade_acl.A

Treatment Control Filtered-1micron



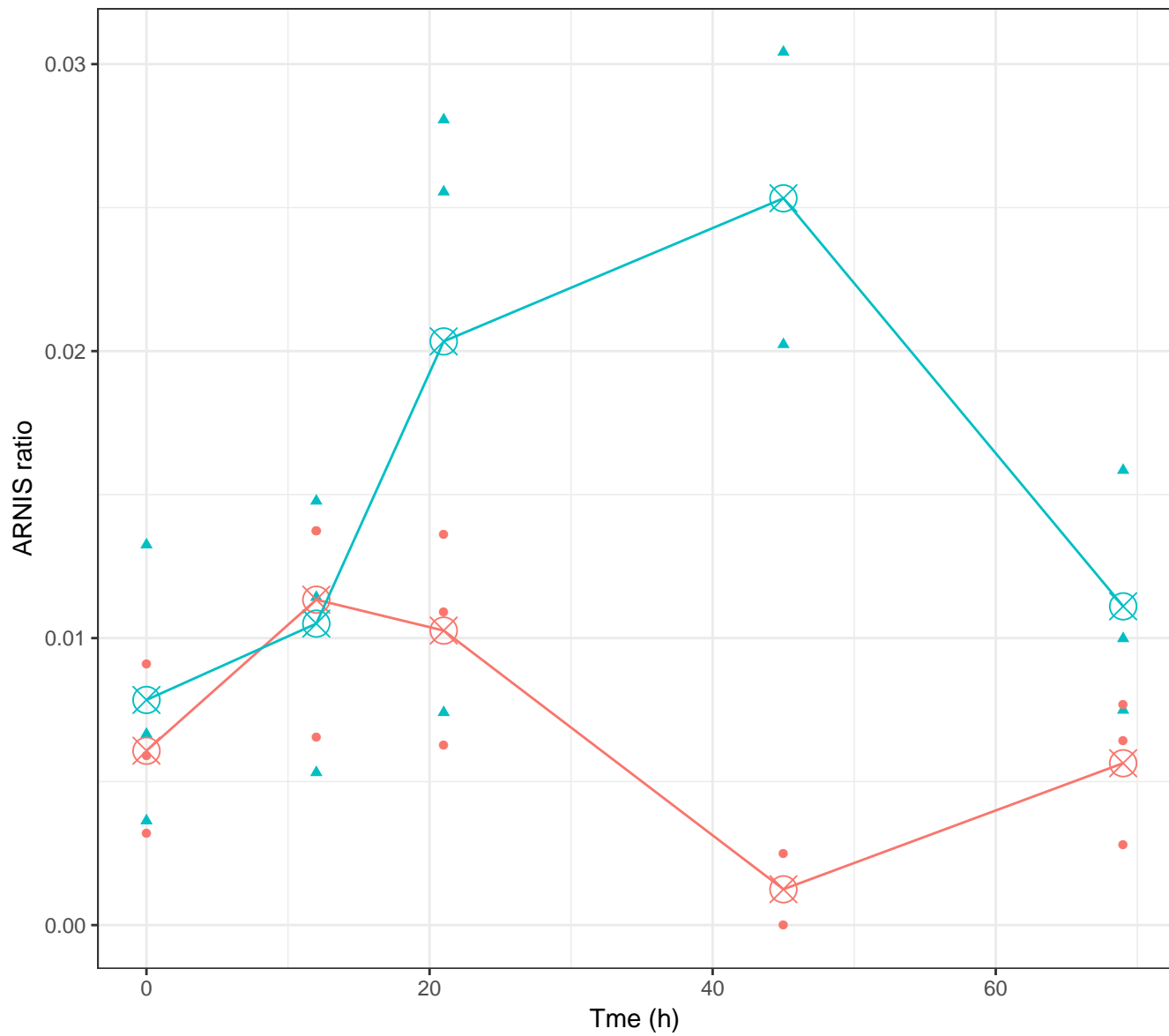
OTU.375_Bacteroidetes_NS9_marine_group

Treatment  Control  Filtered-1micron



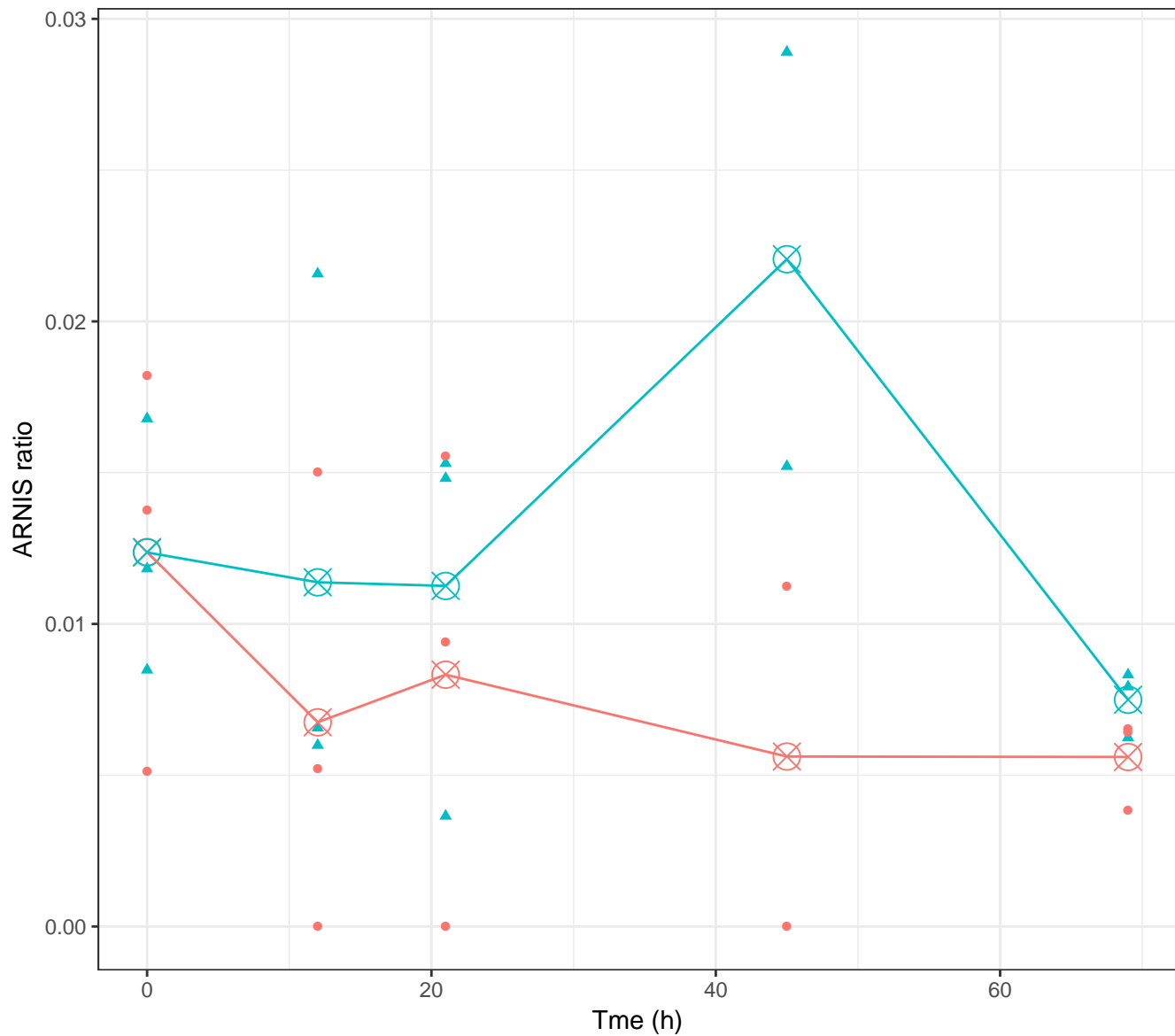
OTU.8_Bacteroidetes_Sediminibacterium

Treatment Control Filtered-1micron



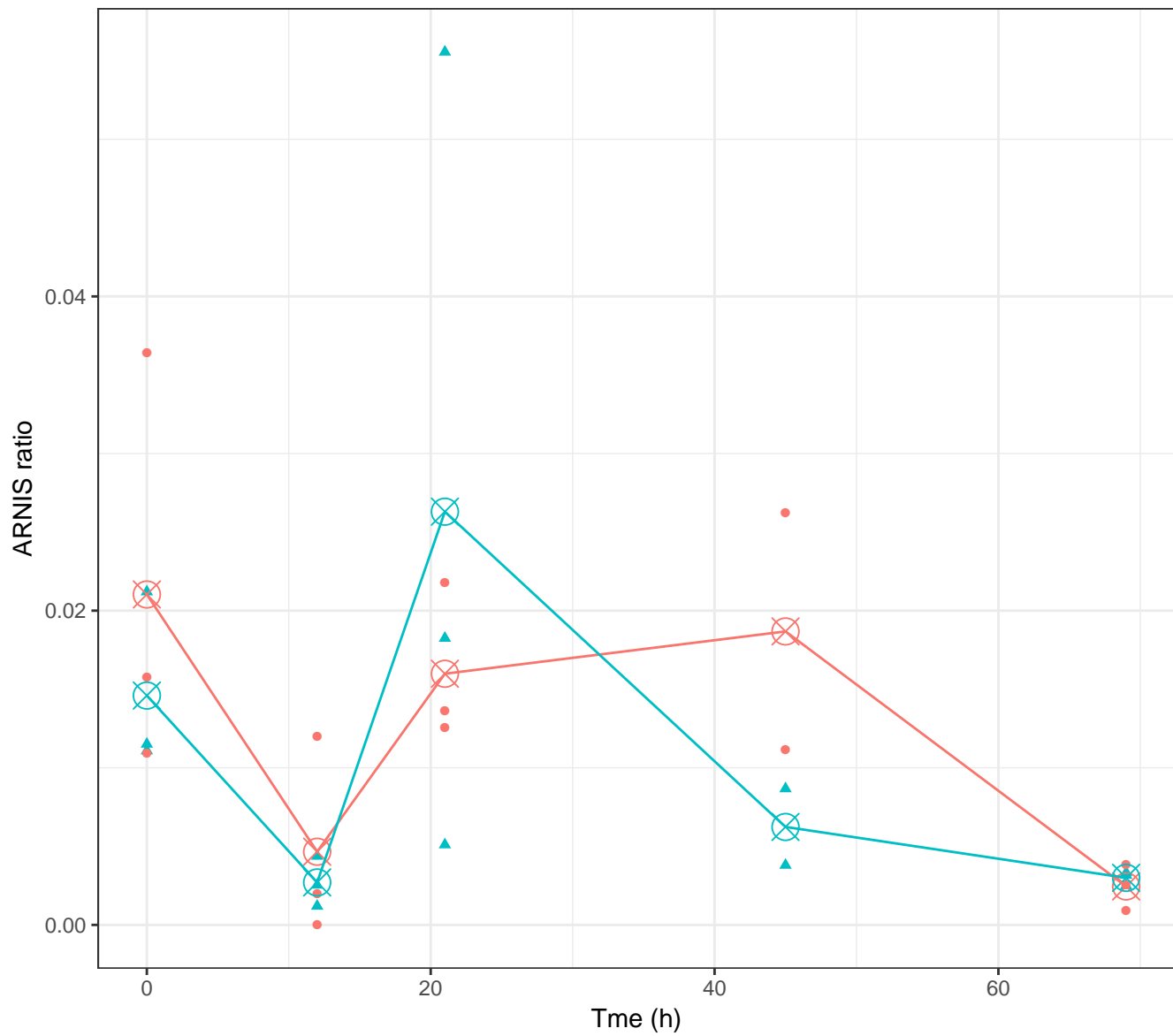
OTU.616_Betaproteobacteria_Rhodocyclaceae

Treatment ⊗ Control ⊗ Filtered-1micron



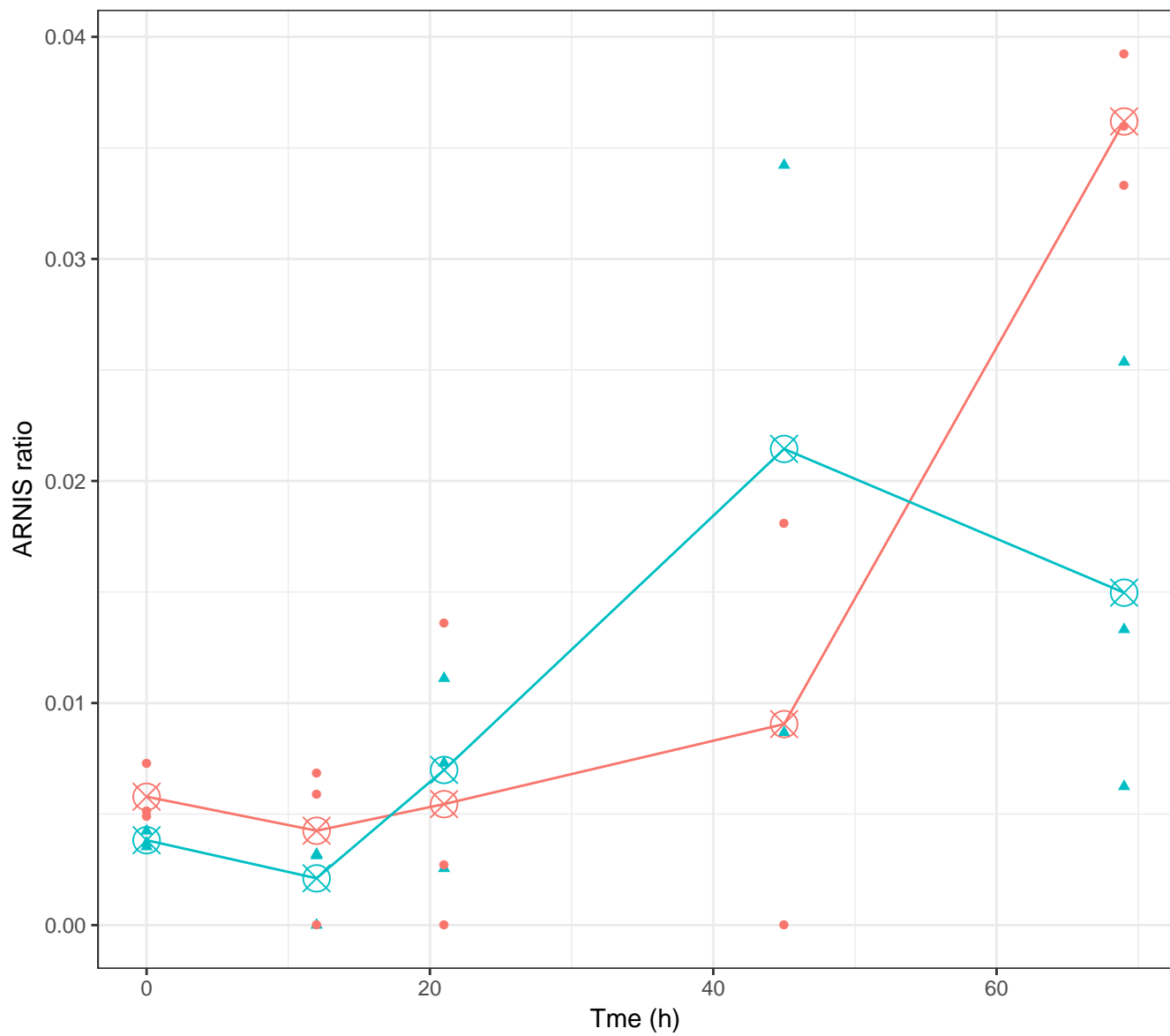
OTU.2231_Planctomyces_Planctomycetaceae

Treatment ⊗ Control ⊗ Filtered-1micron



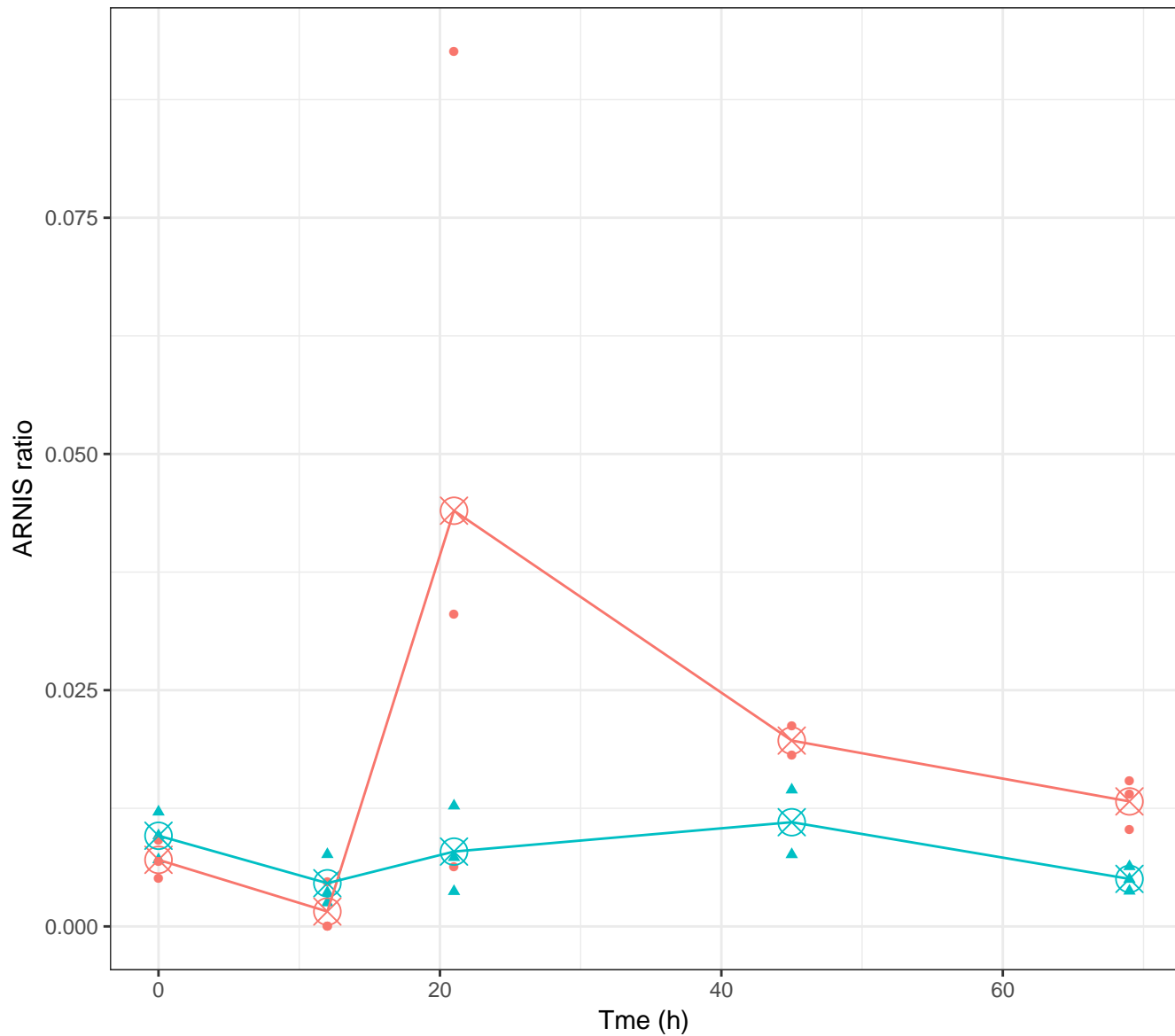
OTU.744_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron



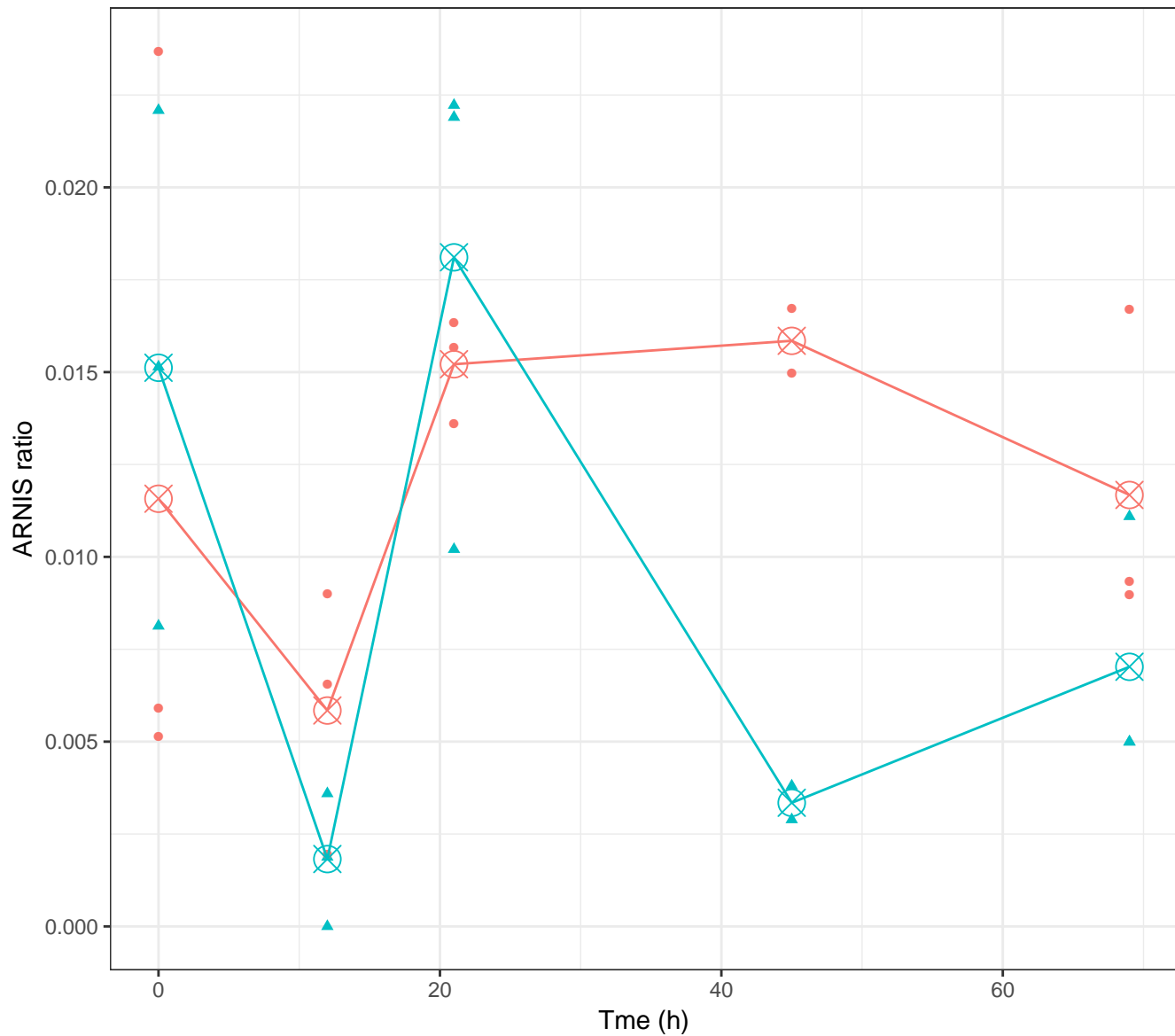
OTU.386_Bacteroidetes_Saprospiraceae

Treatment ⊗ Control ⊗ Filtered-1micron



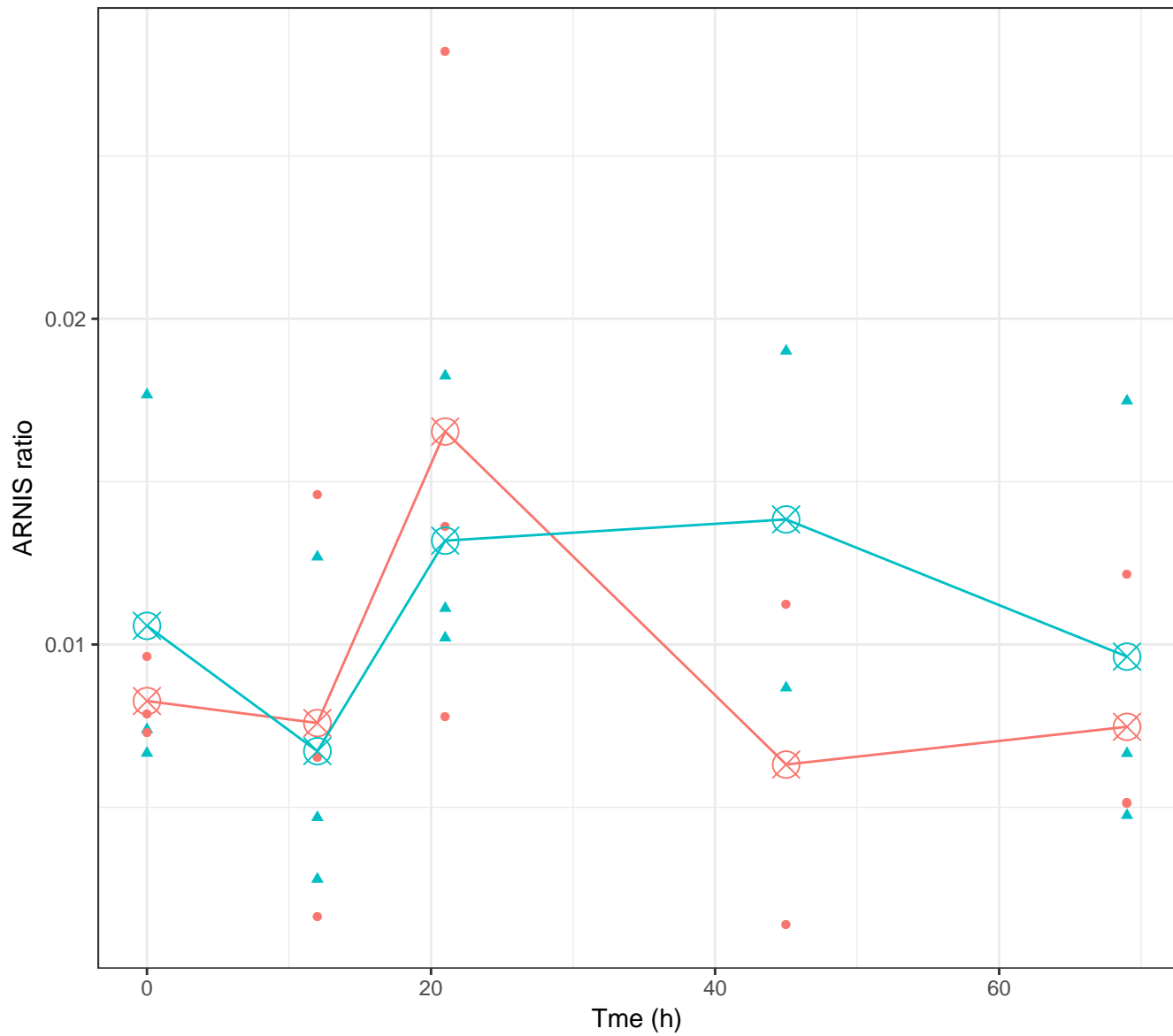


OTU.407_Bacteroidetes_NS9_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron

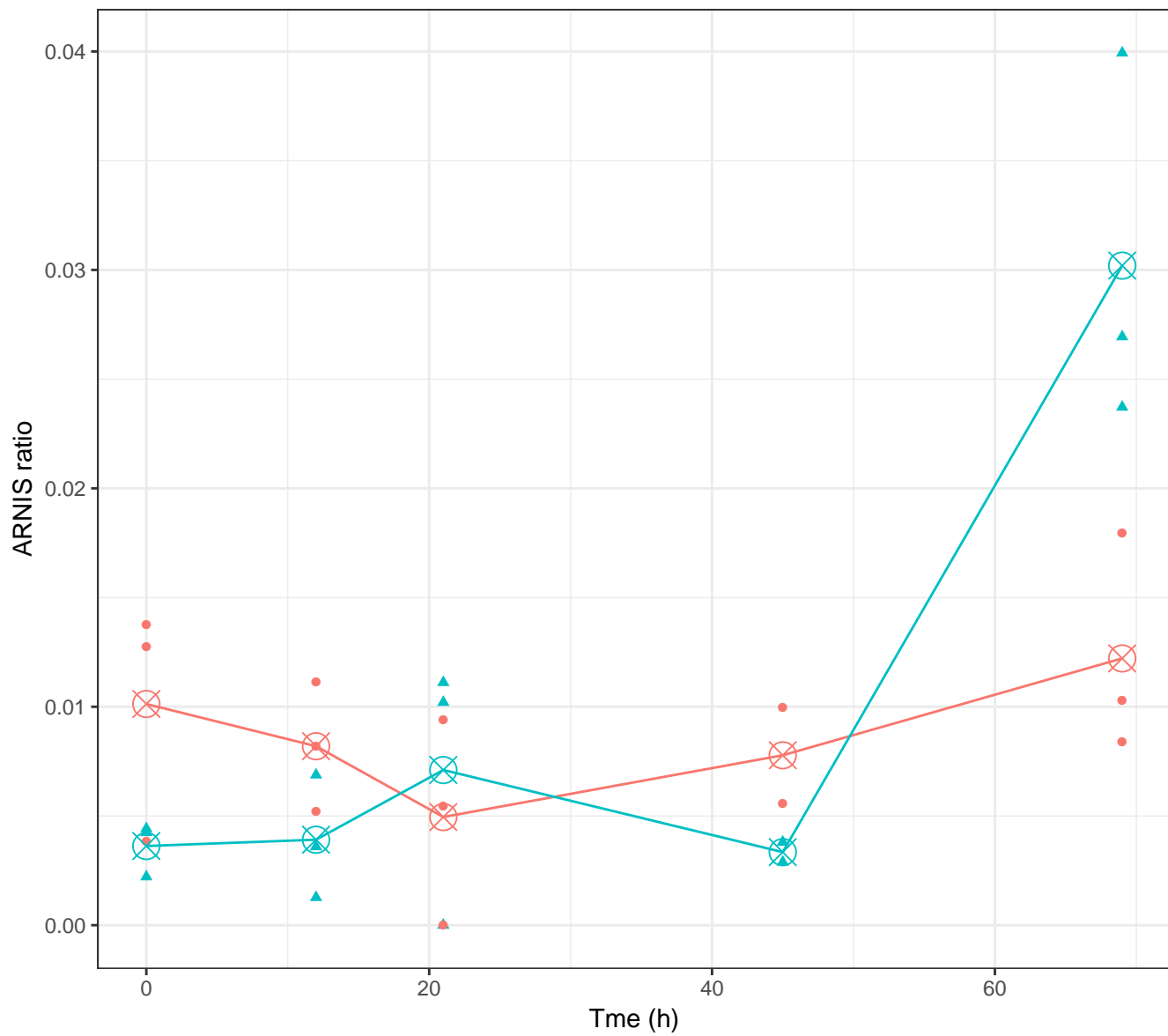


OTU.426_Bacteroidetes_NS11.12_marine_group



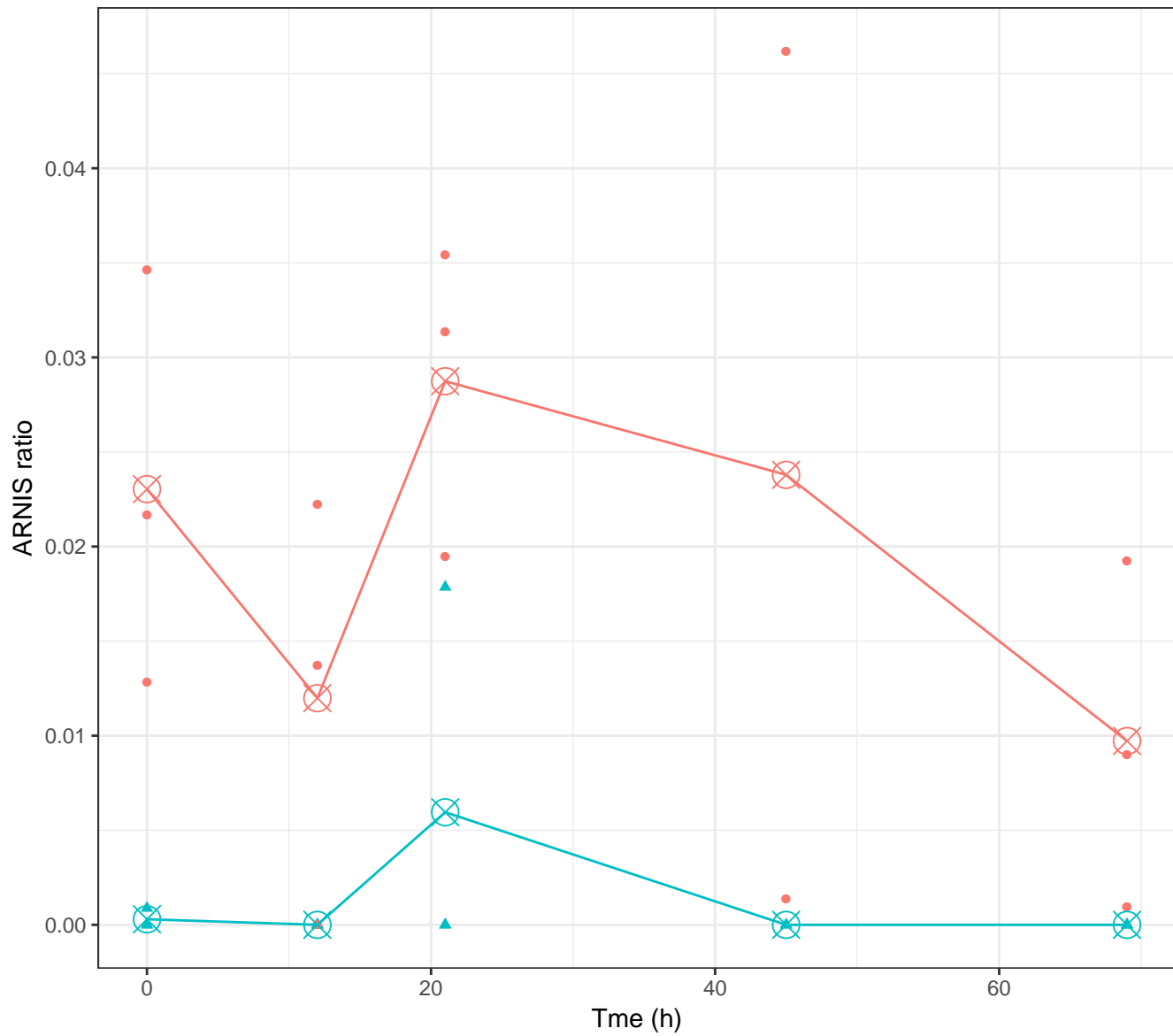
Treatment  Control  Filtered-1micron

OTU.416_Gemmatimonadetes_Gemmatimonas

Treatment Control Filtered-1micron

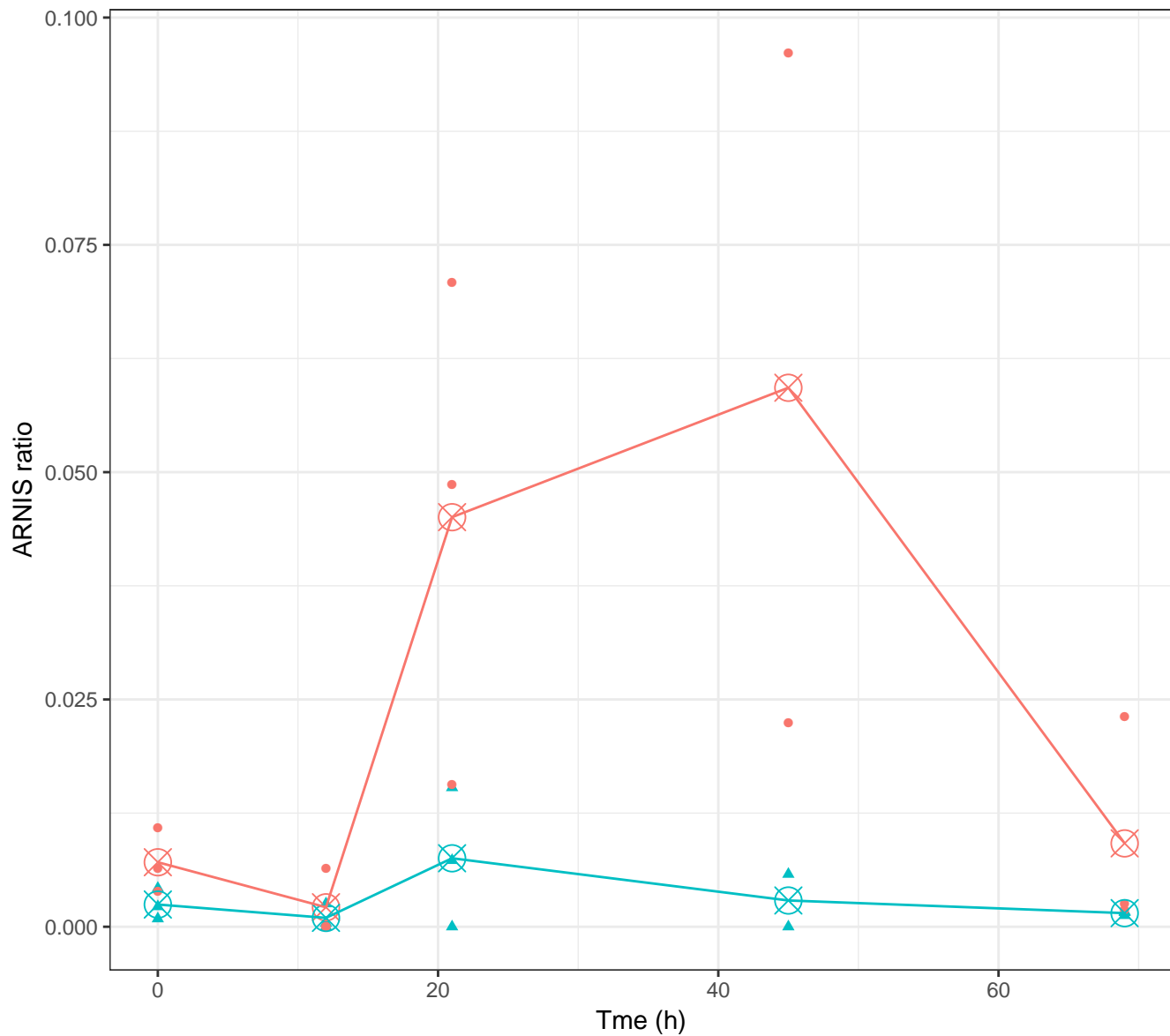


OTU.414_Planctomycetes_Rhodopirellula

Treatment  Control  Filtered-1micron

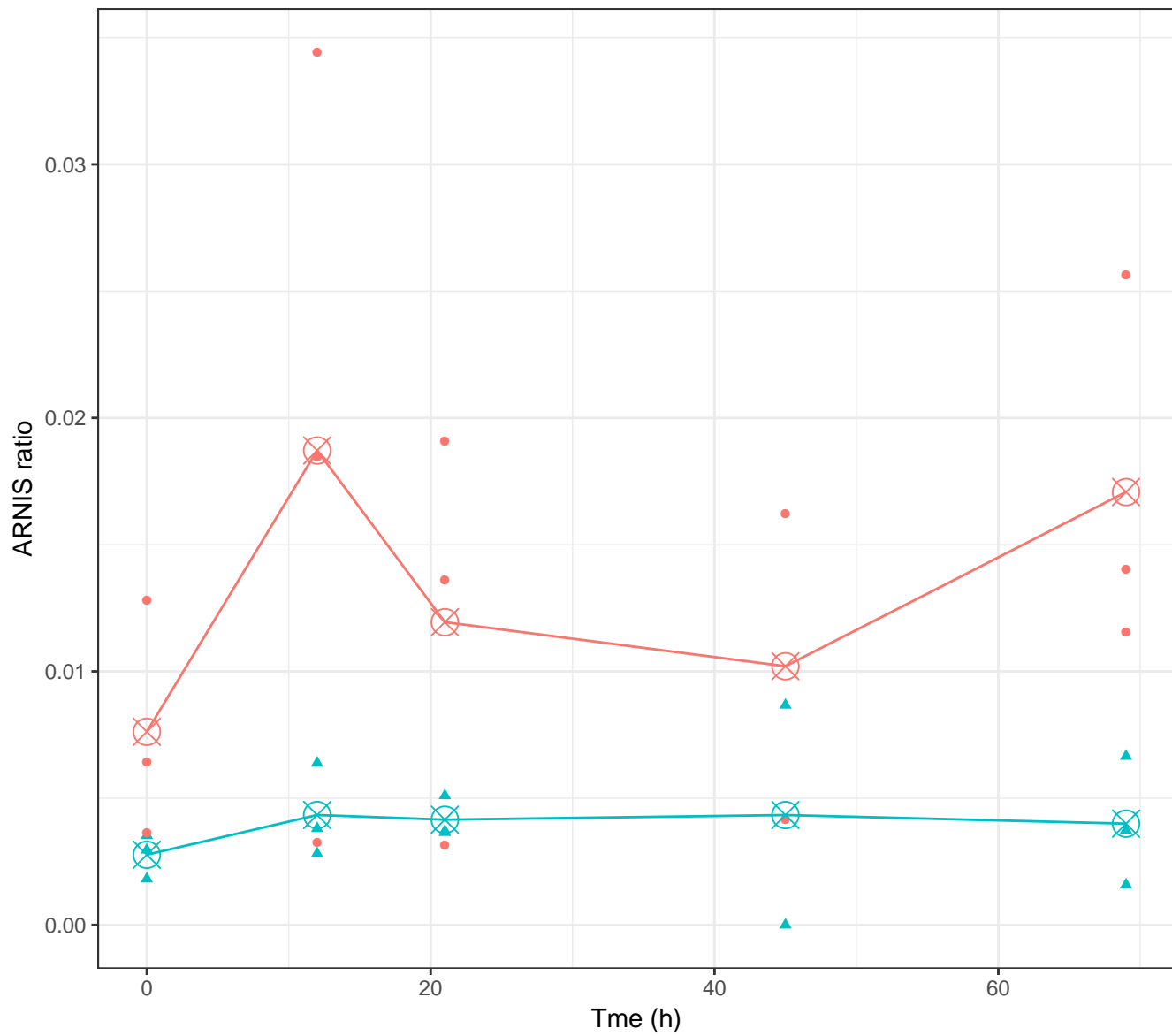
OTU.417_Bacteroidetes_Flavobacterium

Treatment ⊗ Control ⊗ Filtered-1micron



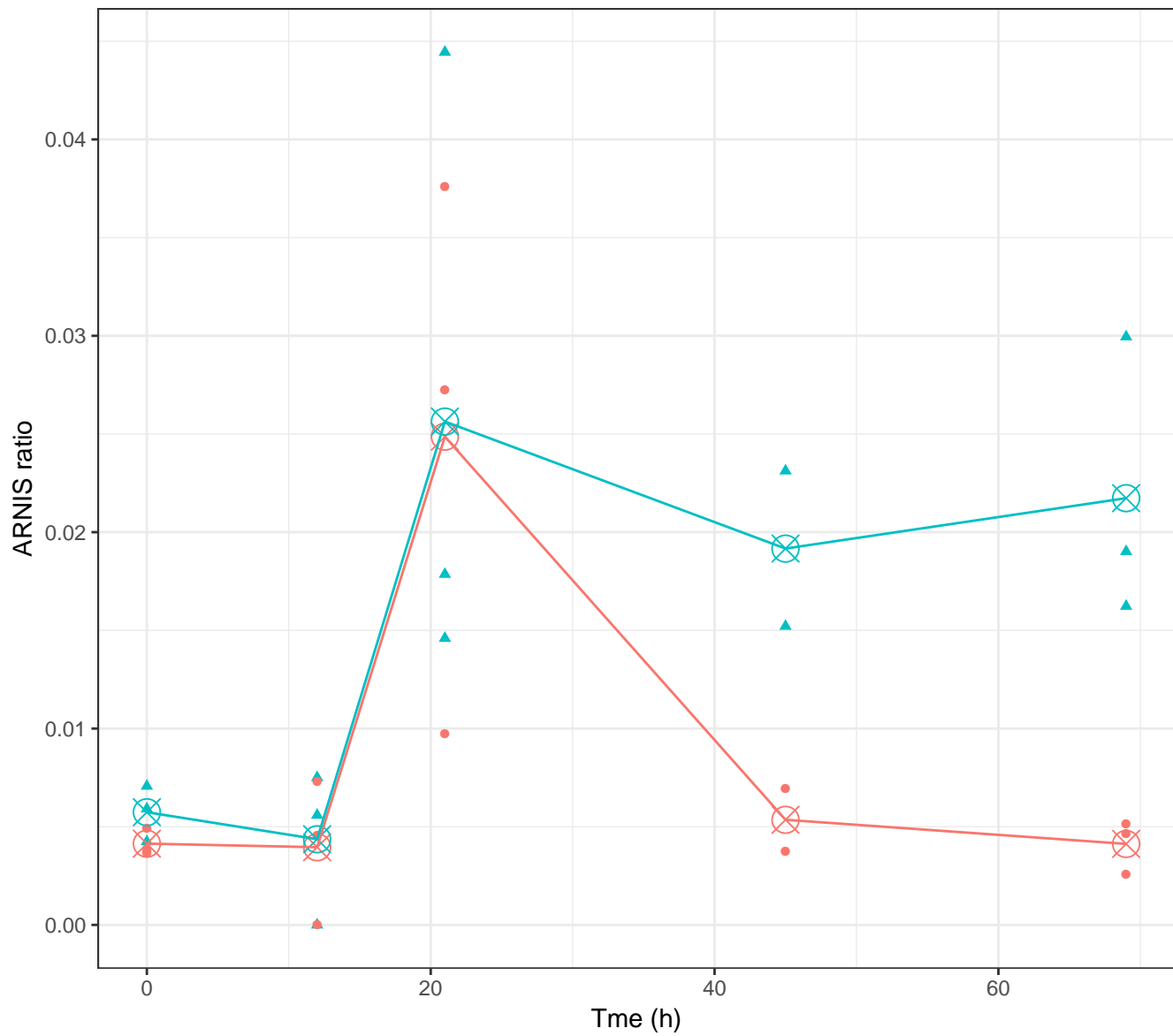
OTU.443_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



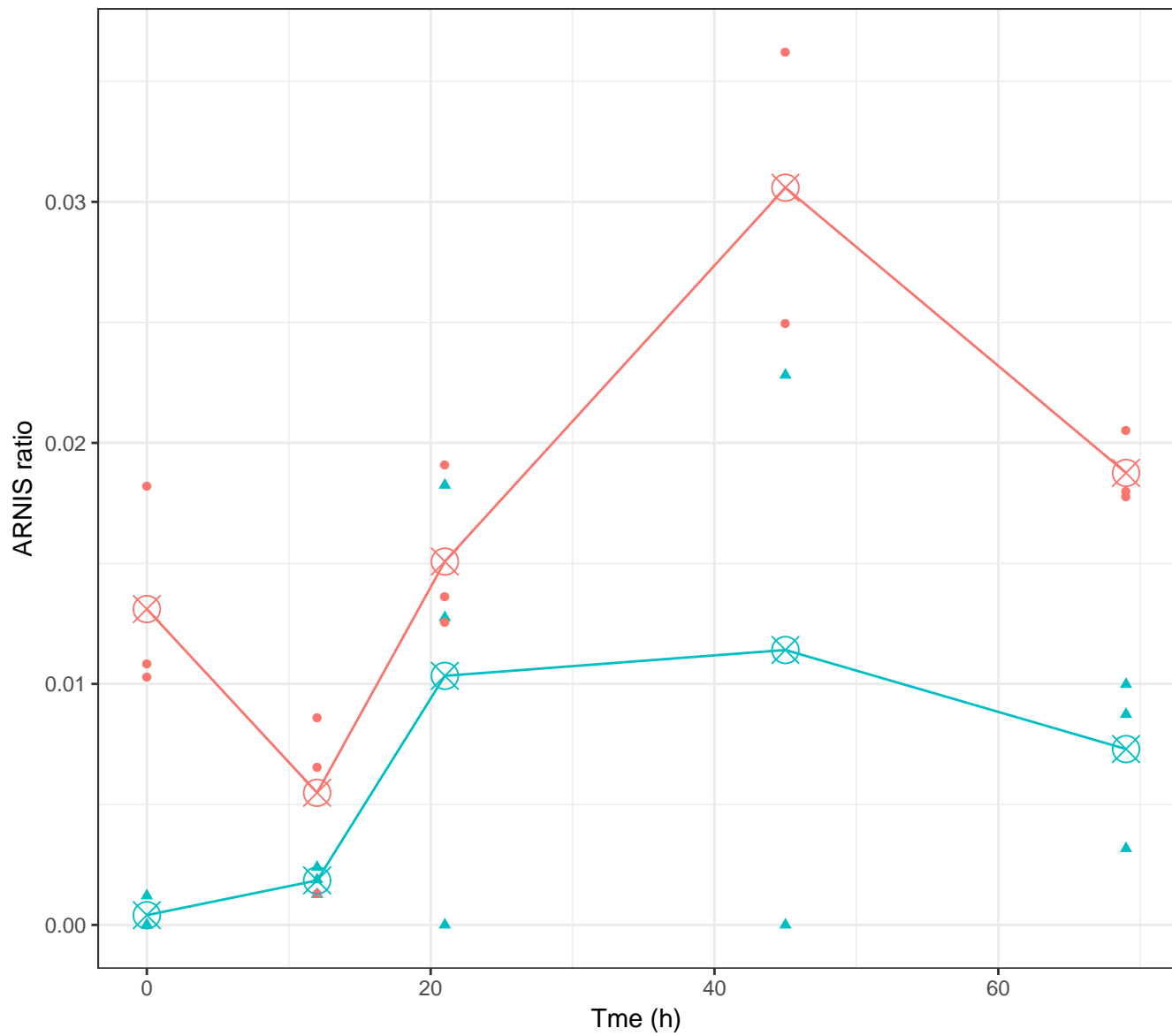
OTU.400_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



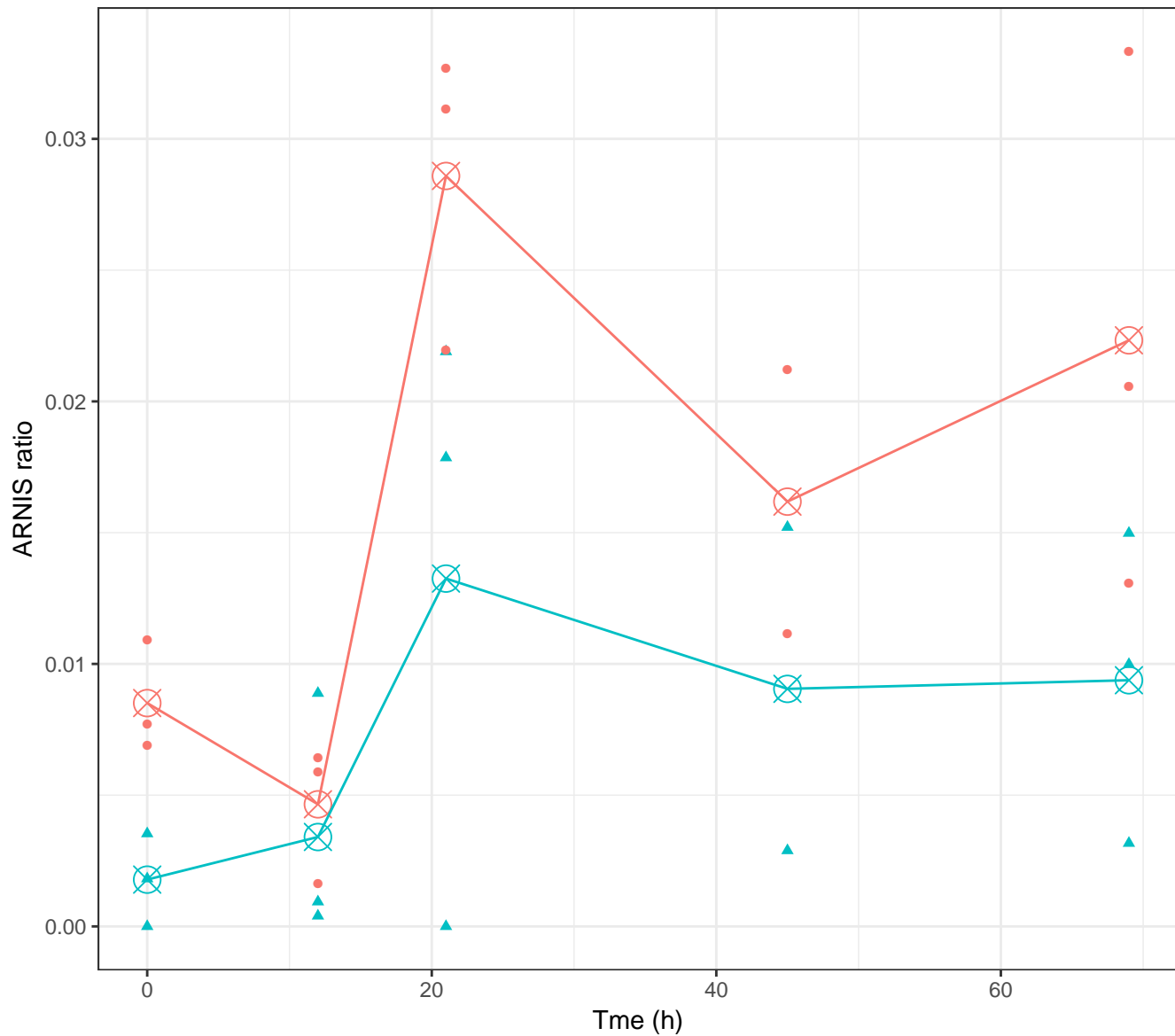
OTU.446_Bacteroidetes_Cytophagaceae

Treatment Control Filtered-1micron



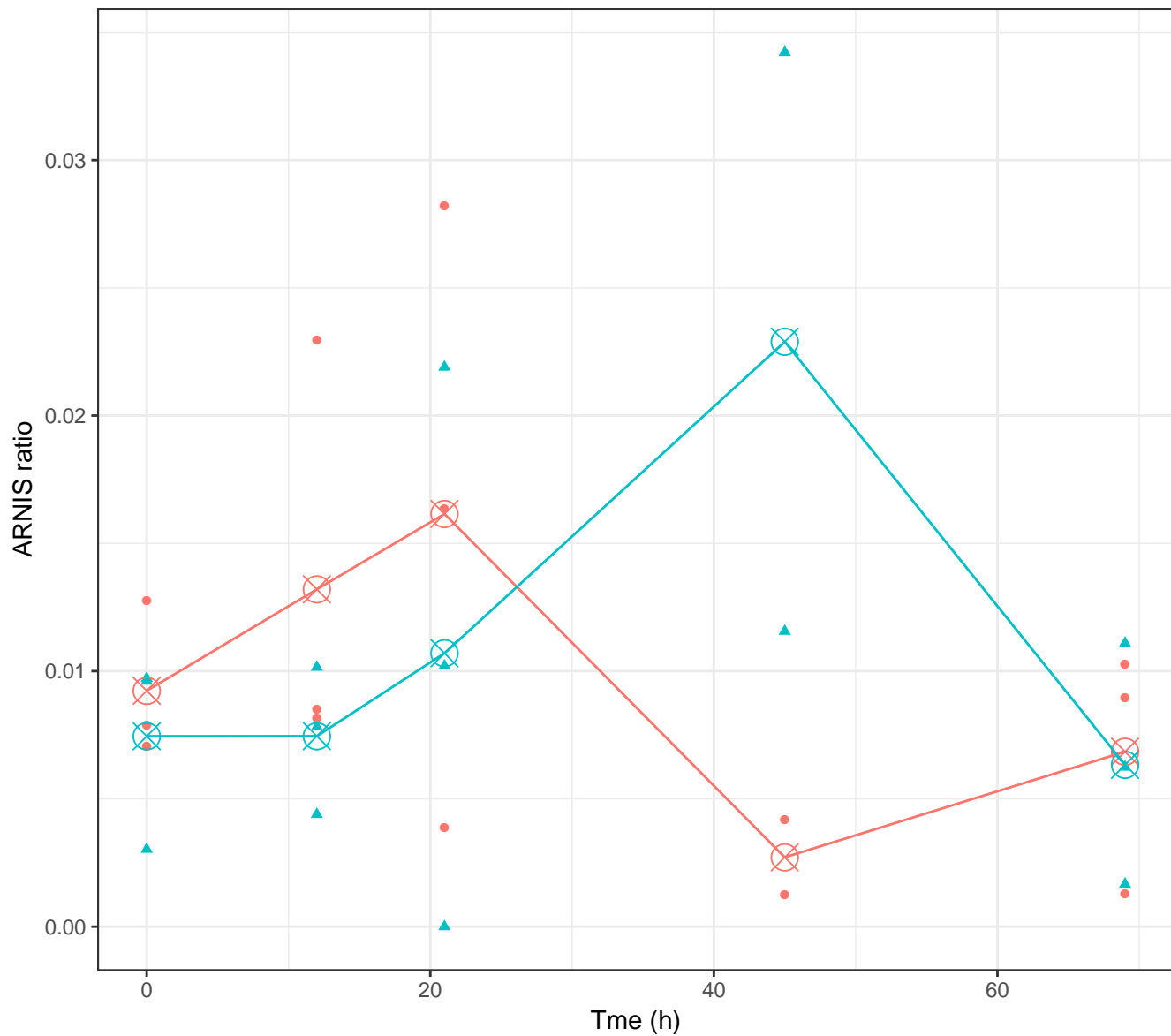
OTU.672_Bacteroidetes_NS9_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron



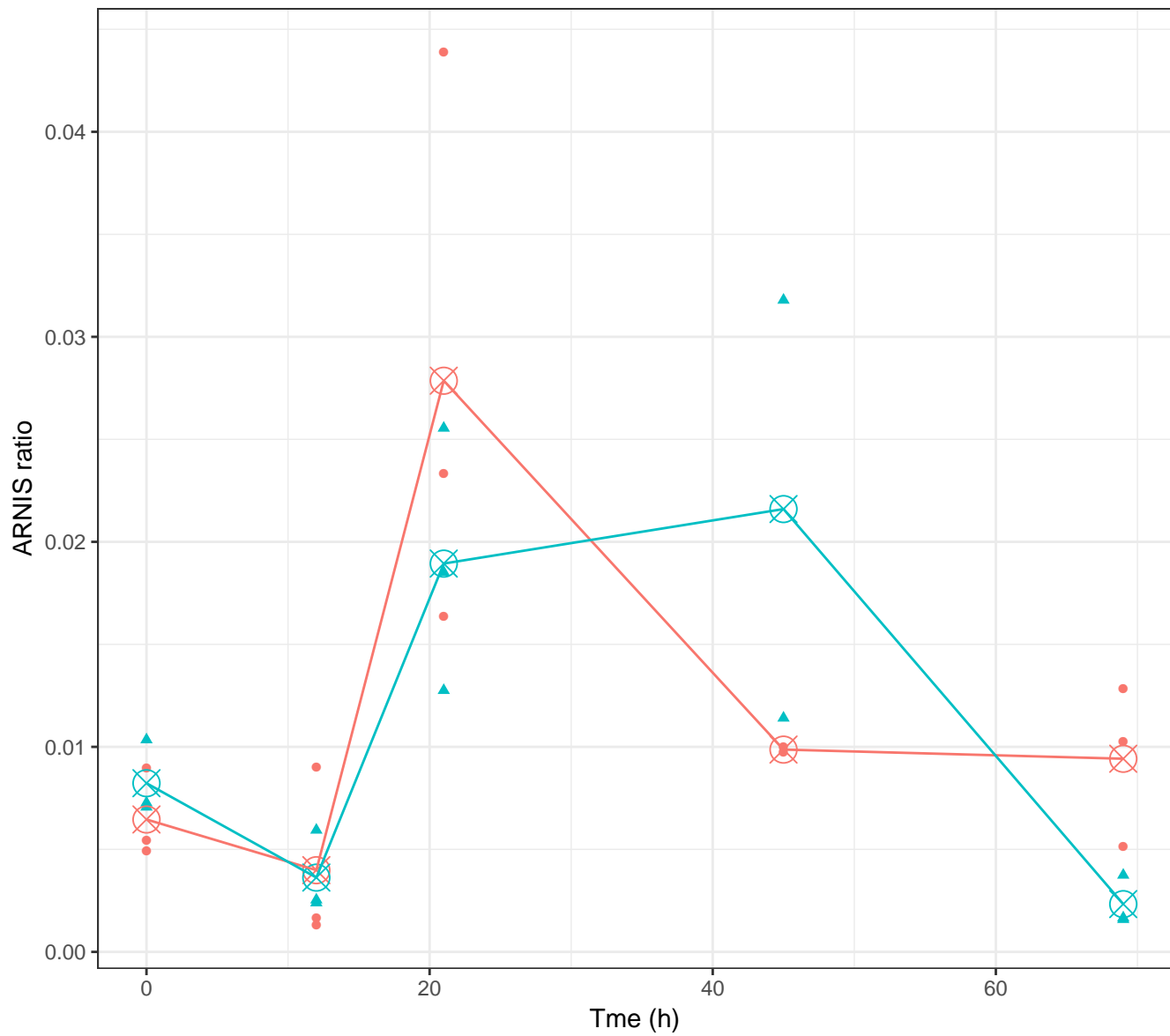
OTU.22_Actinobacteria_Candidatus_Planktoluna

Treatment Control Filtered-1micron



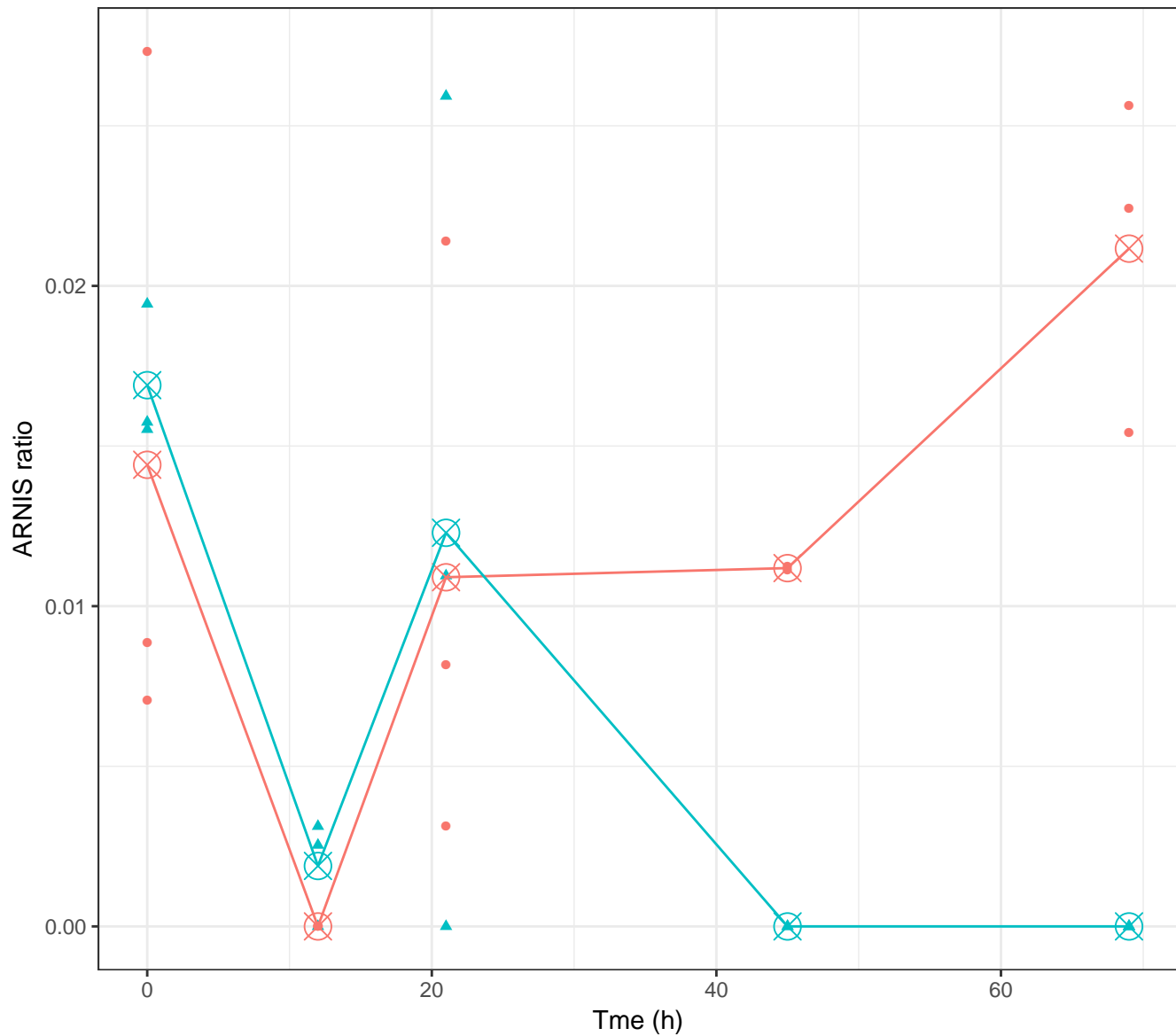
OTU.418_Firmicutes_Lactococcus

Treatment ⊗ Control ⊗ Filtered-1micron





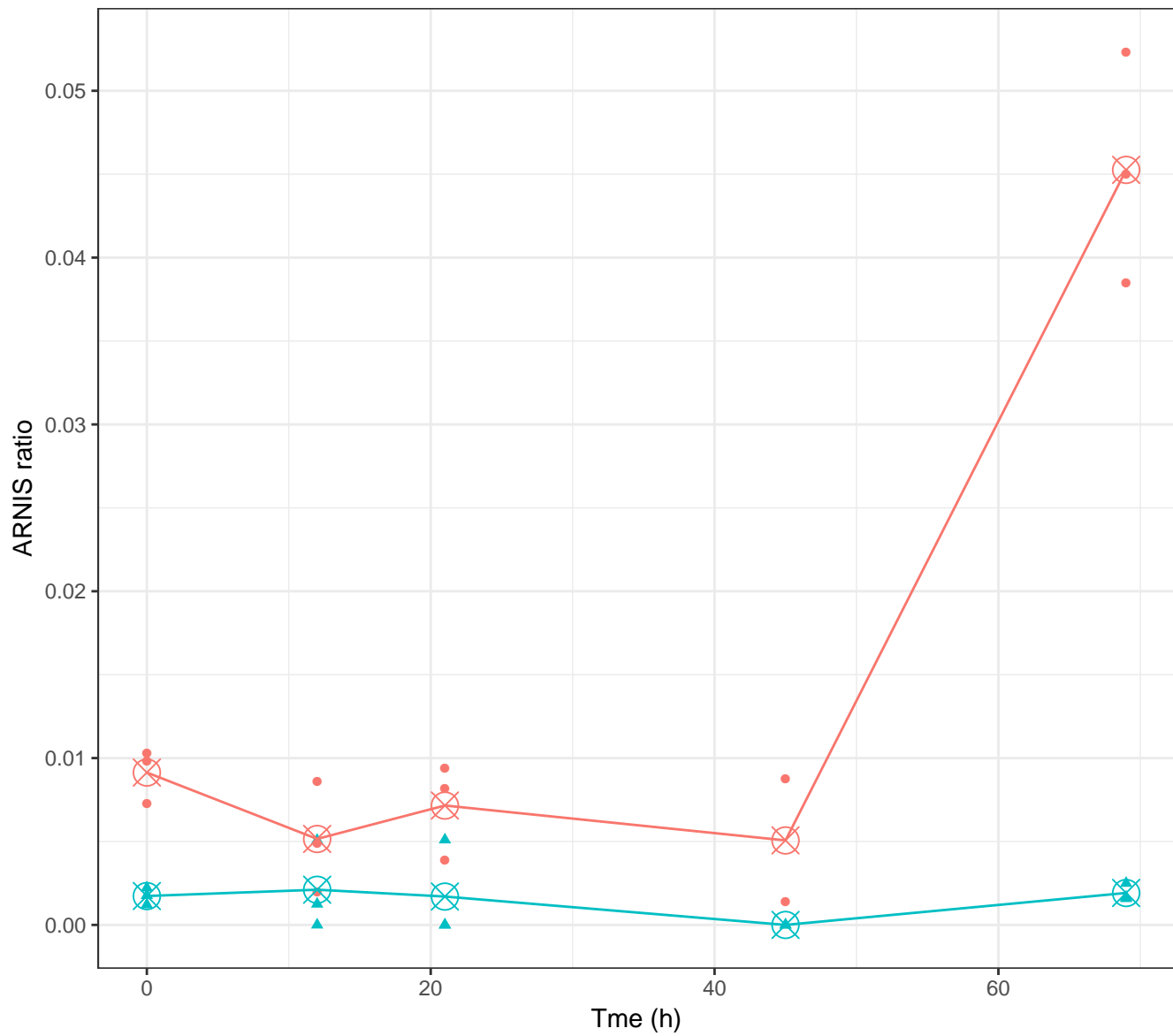
OTU.779_Alphaproteobacteria_Meganema

Treatment Control Filtered-1micron



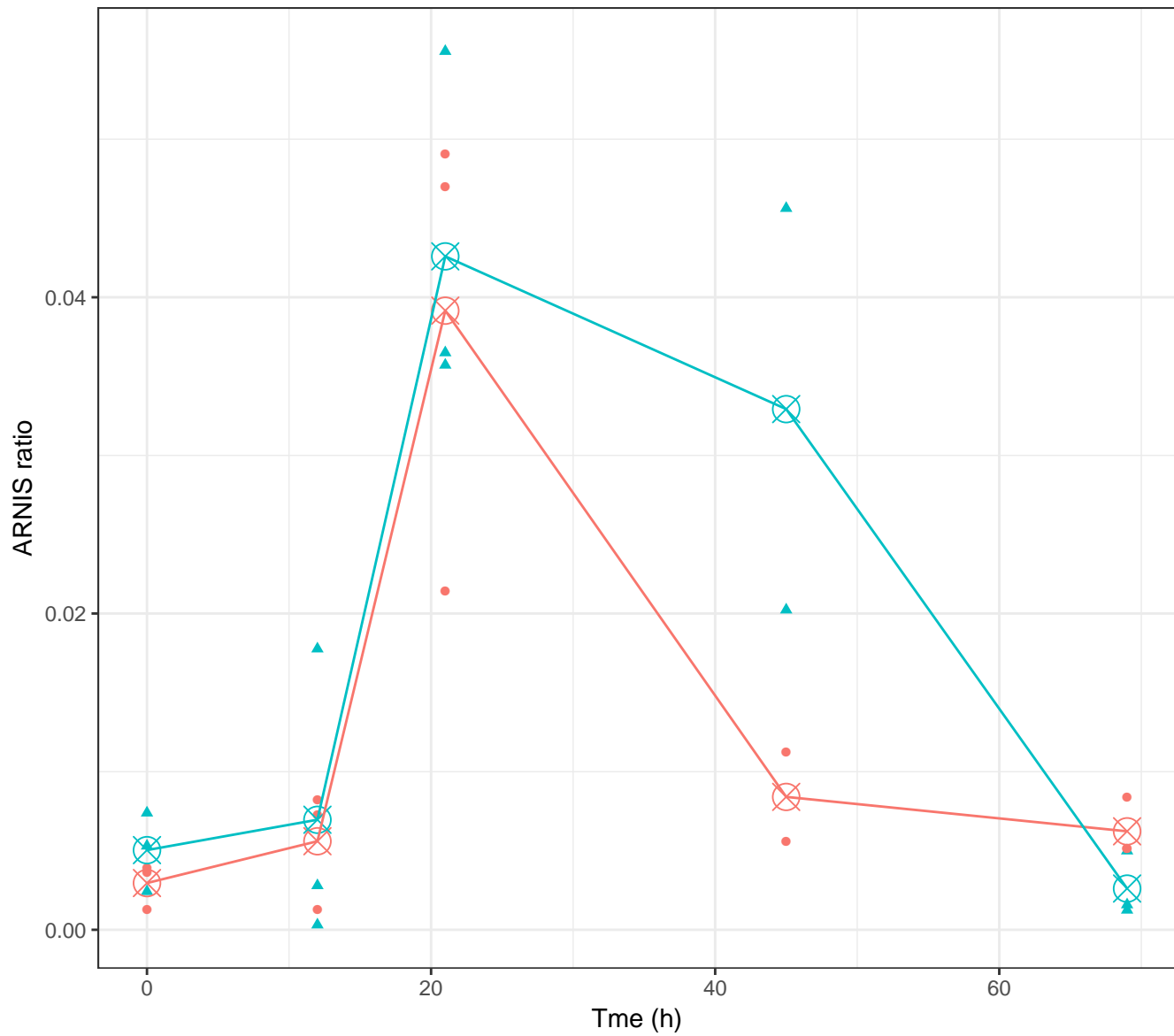
OTU.433_Alphaproteobacteria_Acetobacteraceae

Treatment  Control  Filtered-1micron



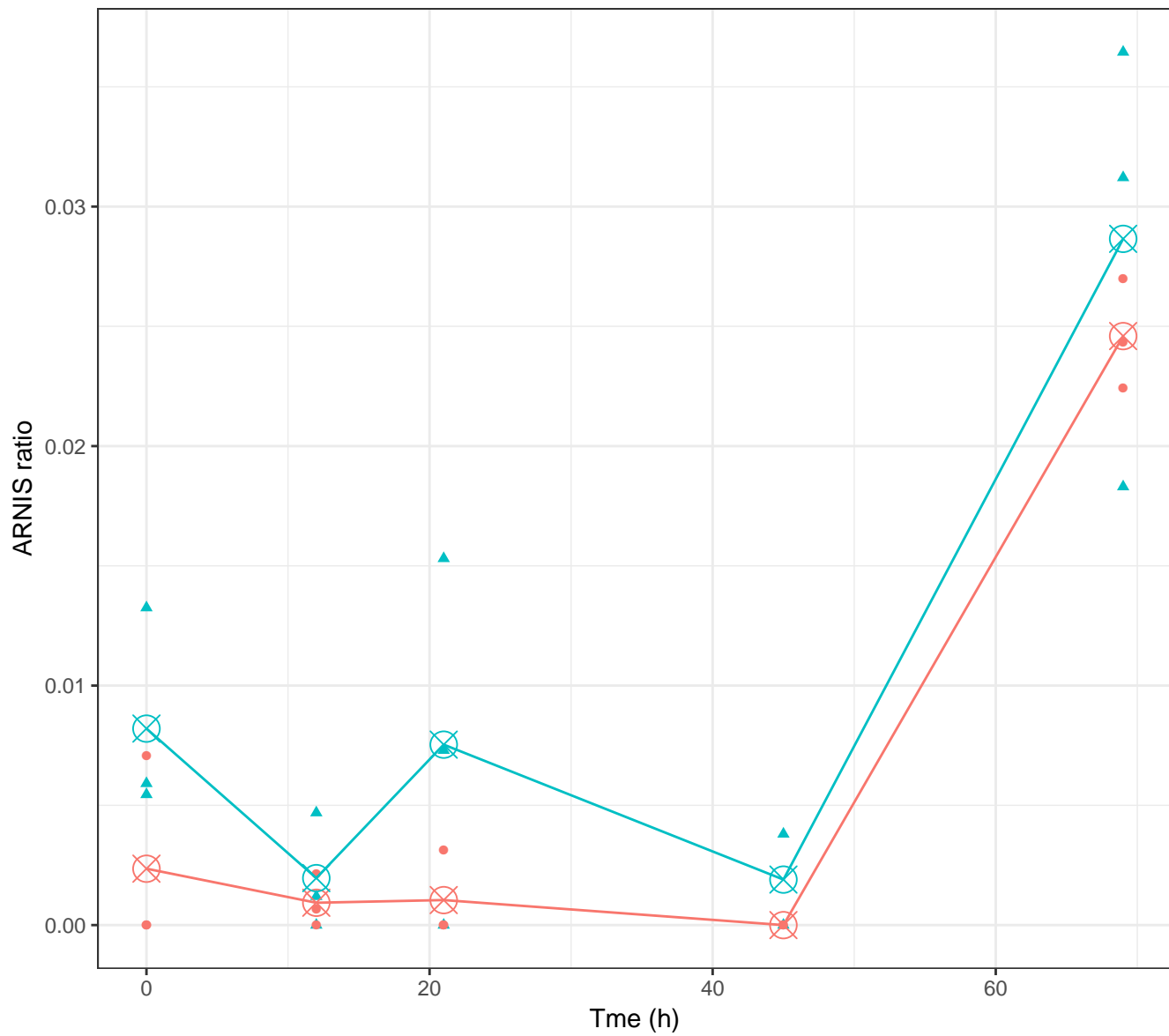
OTU.413_Gammaproteobacteria_Legionella

Treatment Control Filtered-1micron



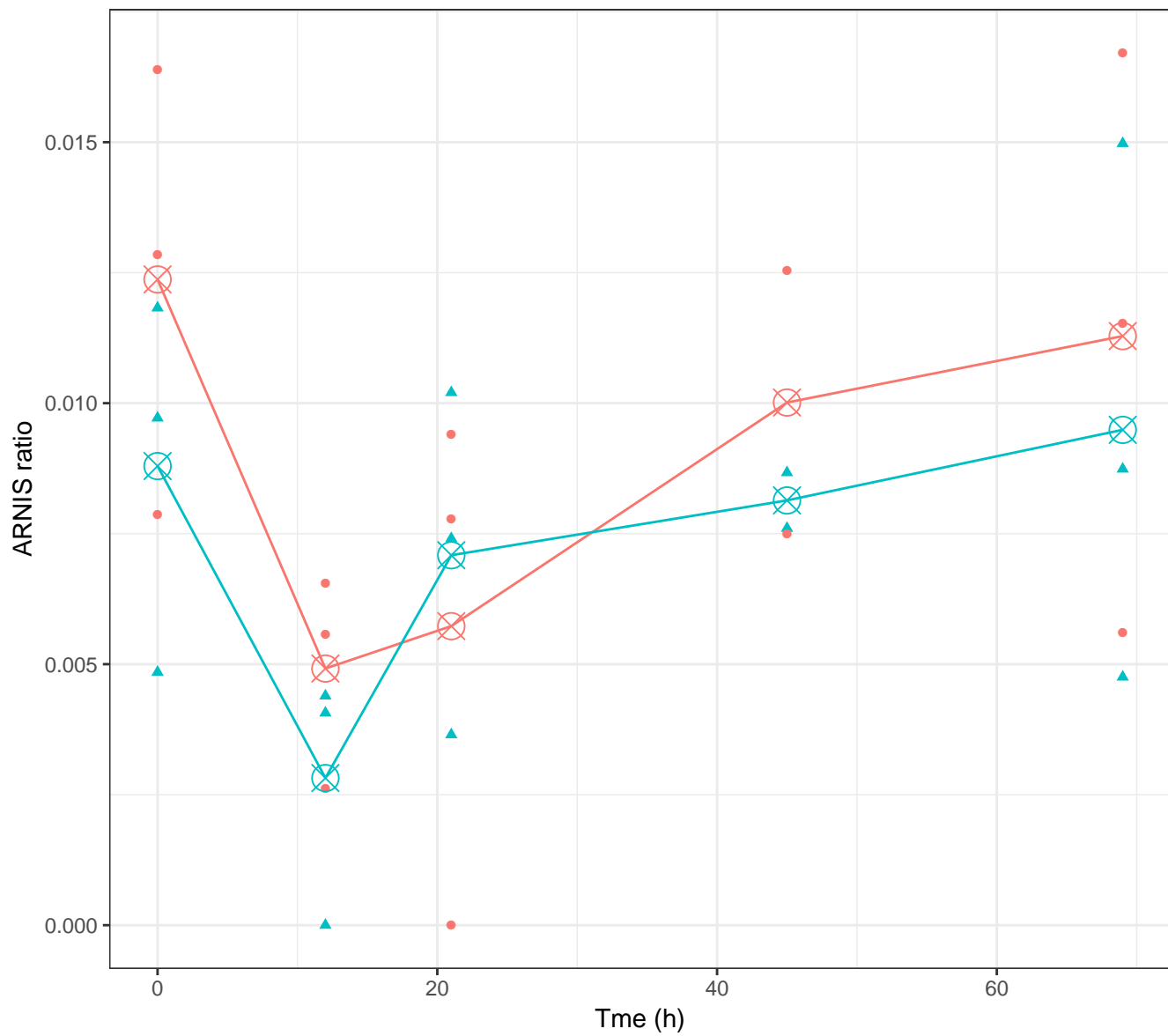
OTU.1185_Actinobacteria_Microbacteriaceae

Treatment Control Filtered-1micron



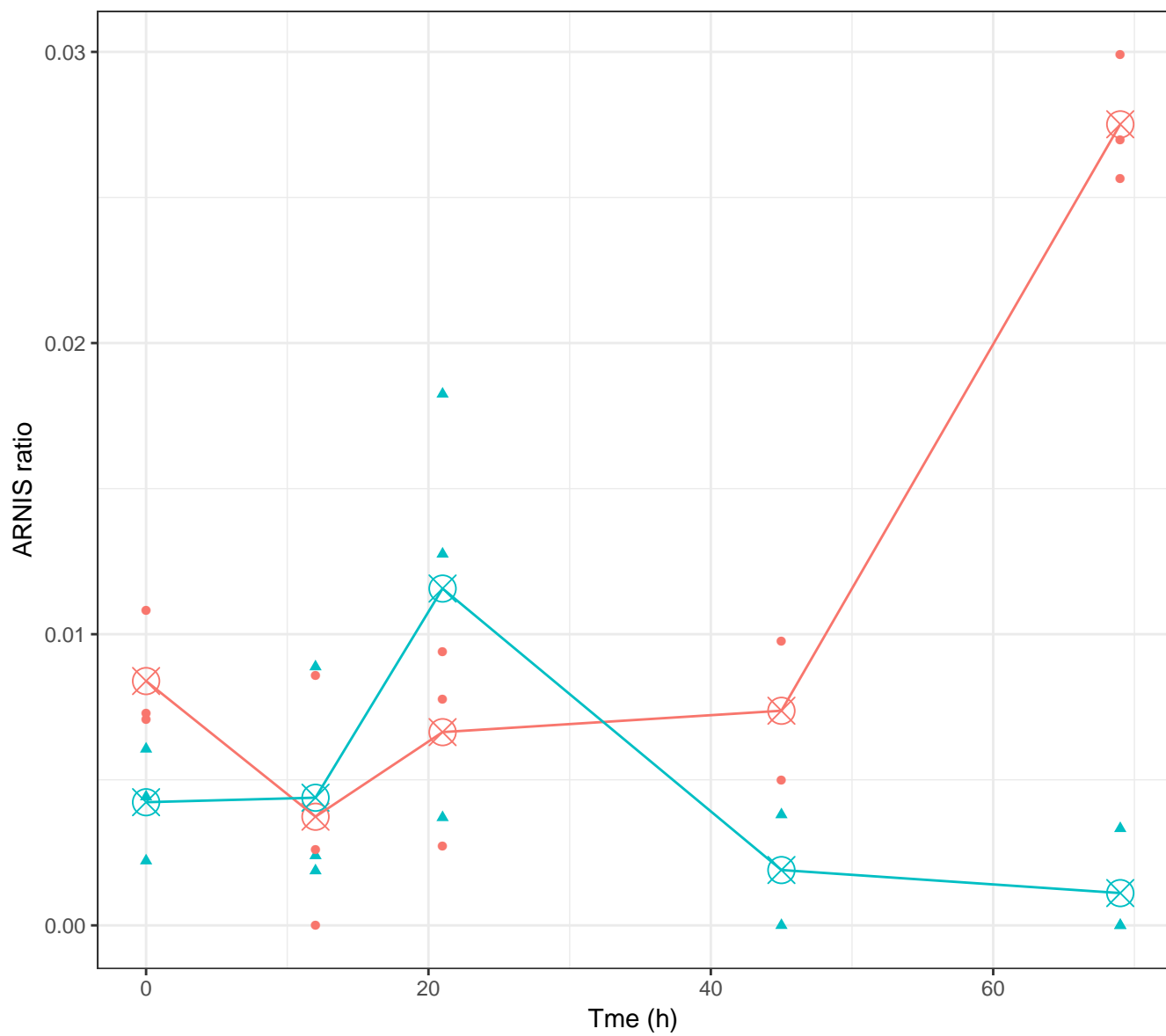
OTU.437_Firmicutes_Paenibacillus

Treatment ⊗ Control ⊗ Filtered-1micron



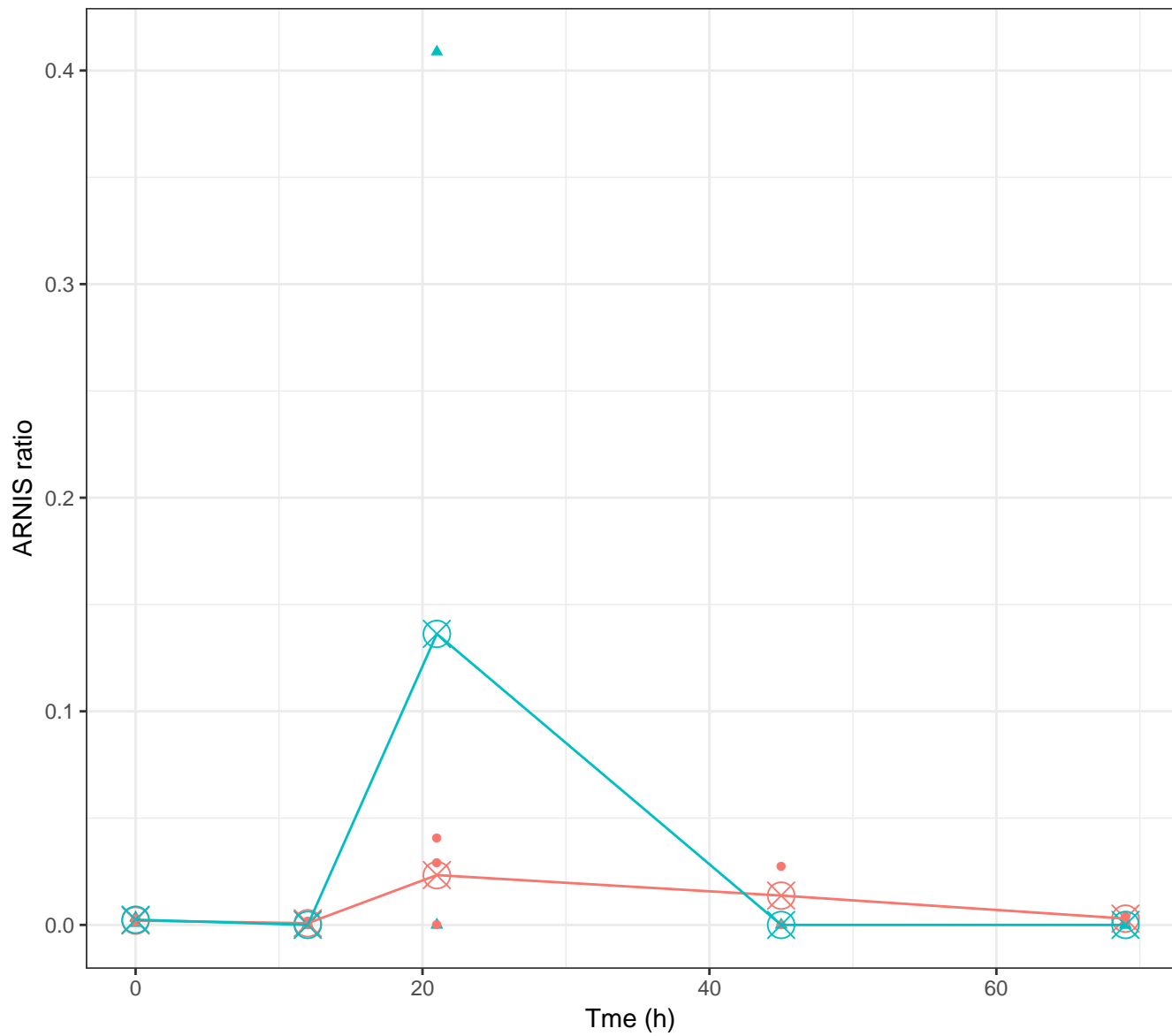
OTU.449_Proteobacteria_TA18

Treatment Control Filtered-1micron



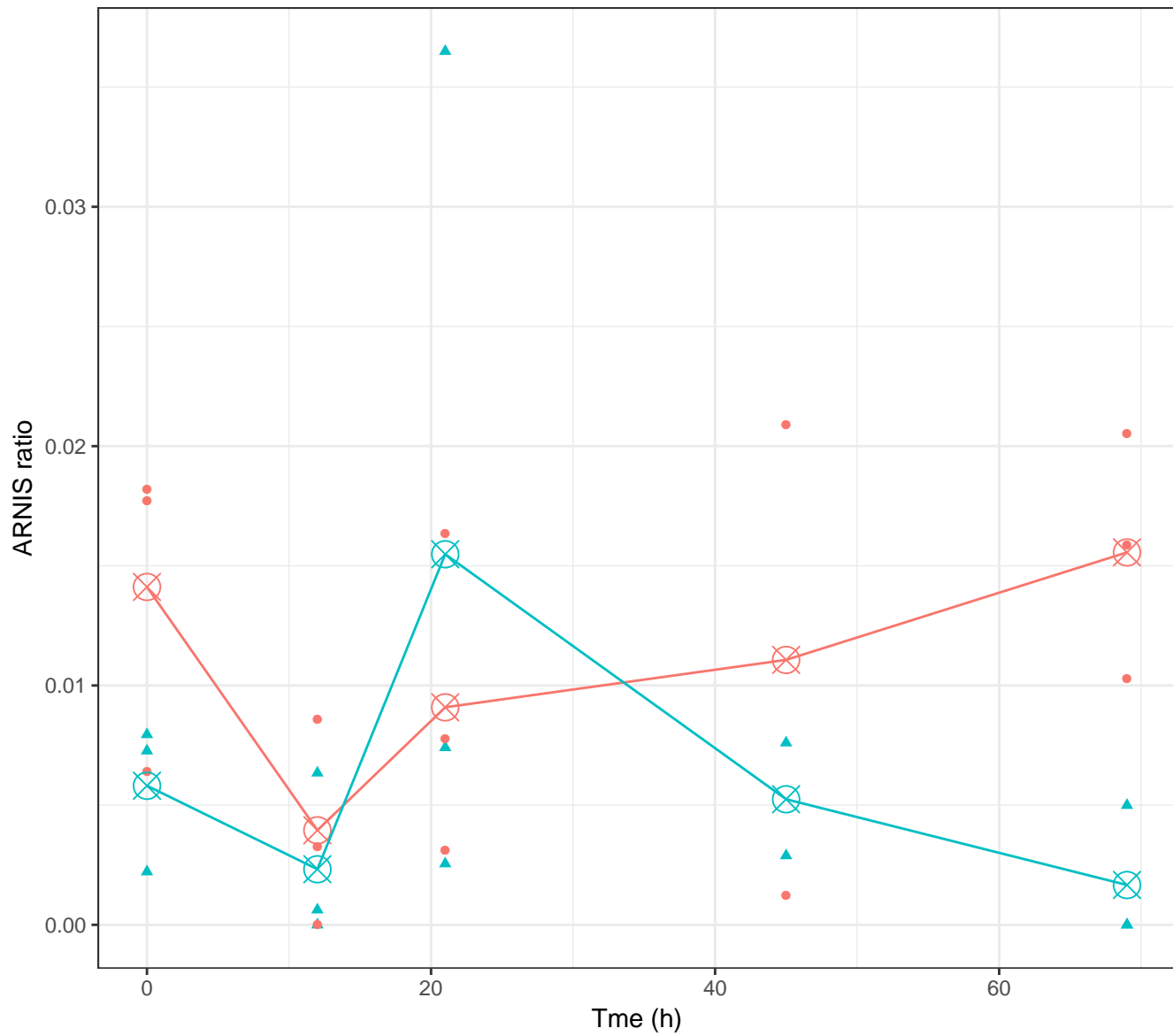
OTU.1300_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron



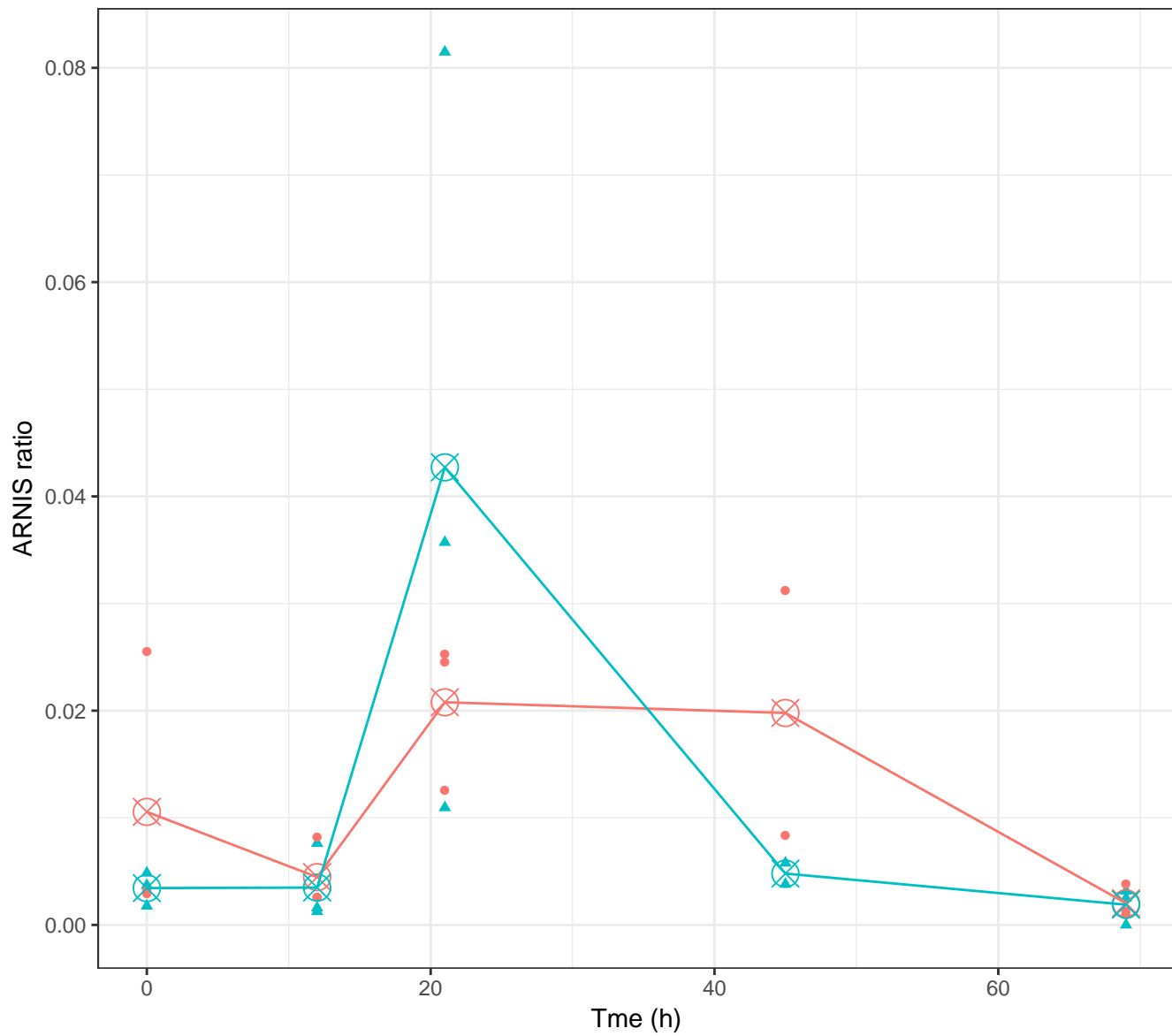
OTU.501_Deltaproteobacteria_Sorangium

Treatment Control Filtered-1micron



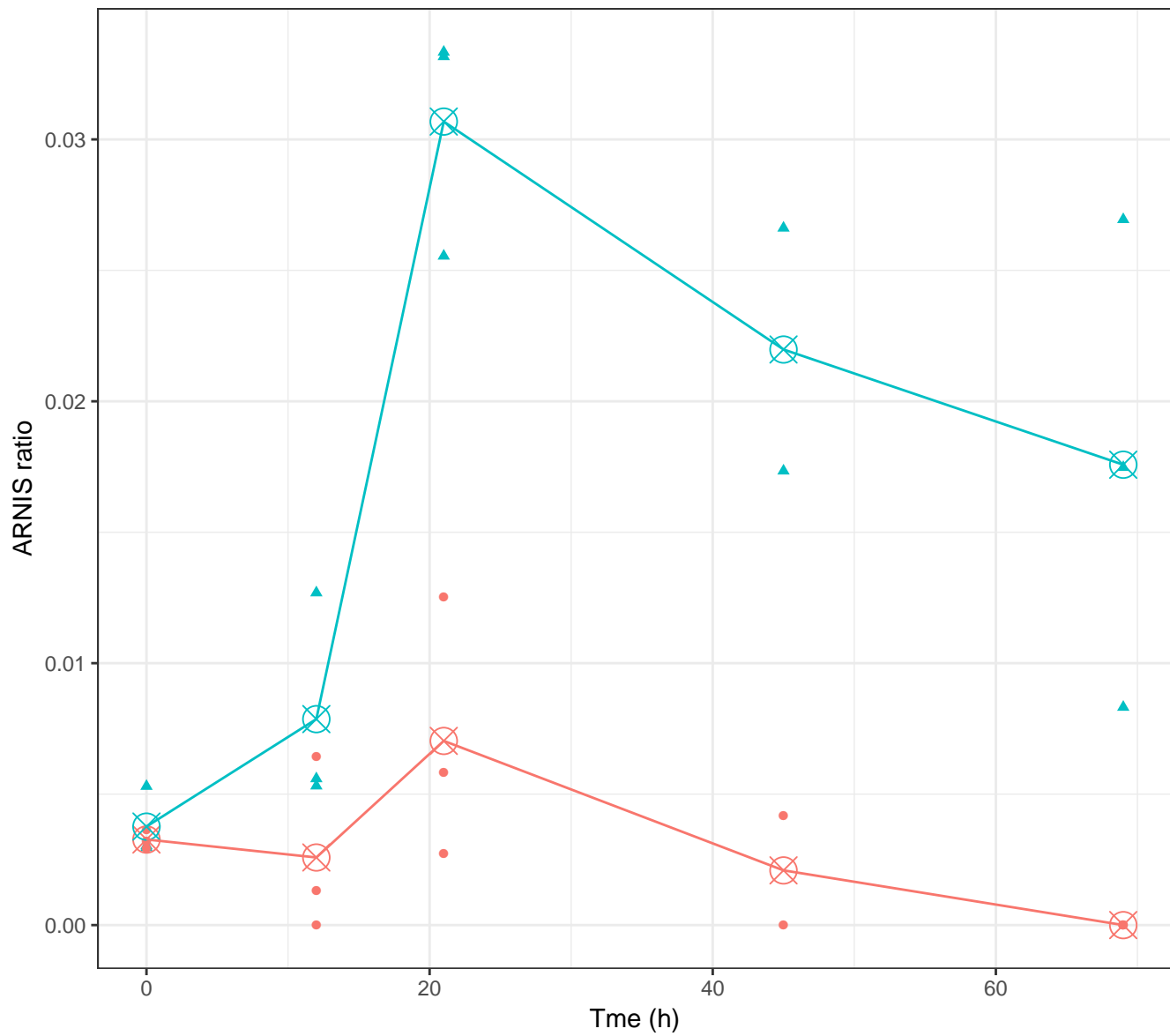
OTU.327_Chlamydiae_Candidatus_Rhabdochlamydia

Treatment Control Filtered-1micron



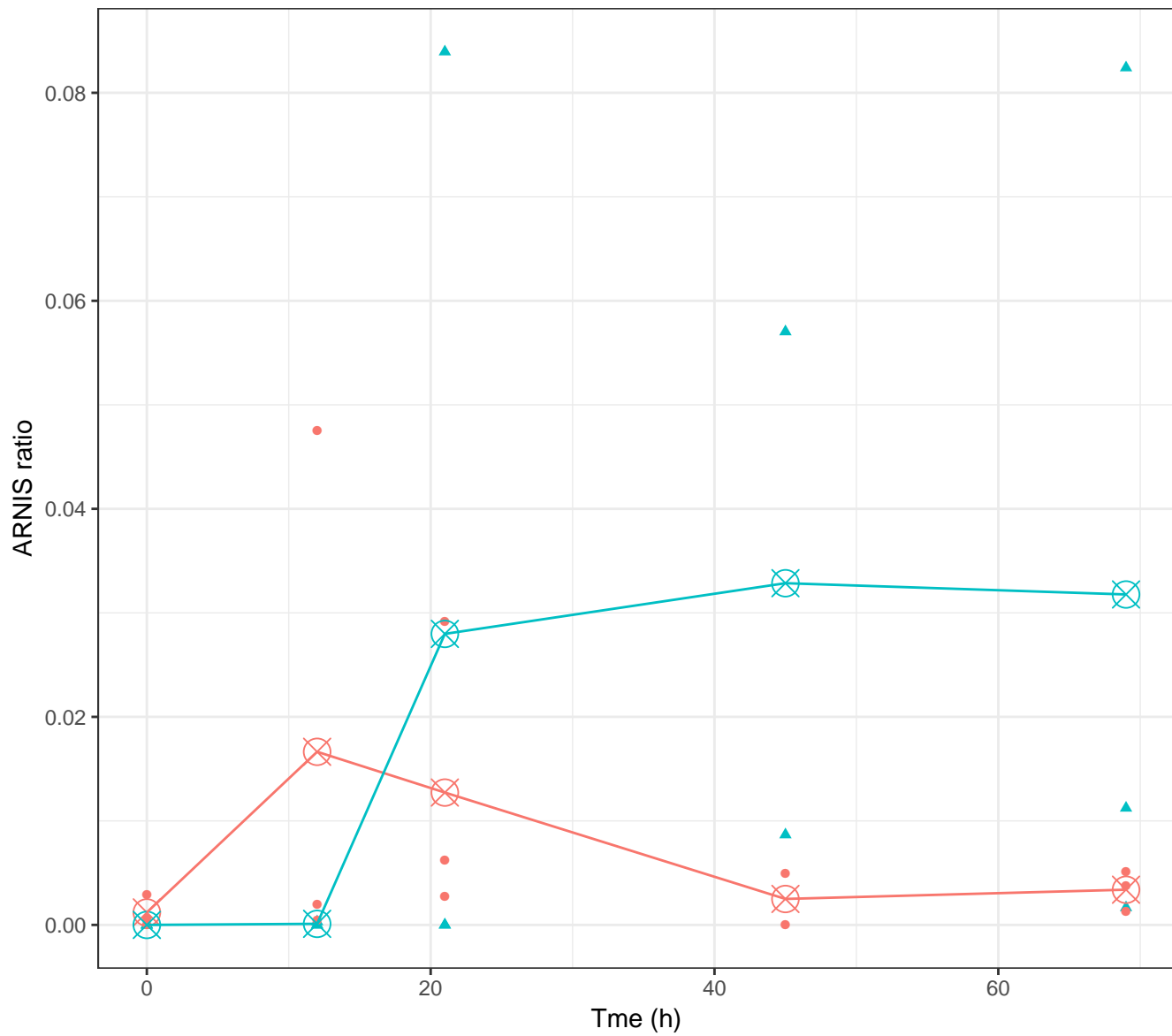
OTU.497_Bacteroidetes_Fluviicola

Treatment ⊗ Control ⊗ Filtered-1micron



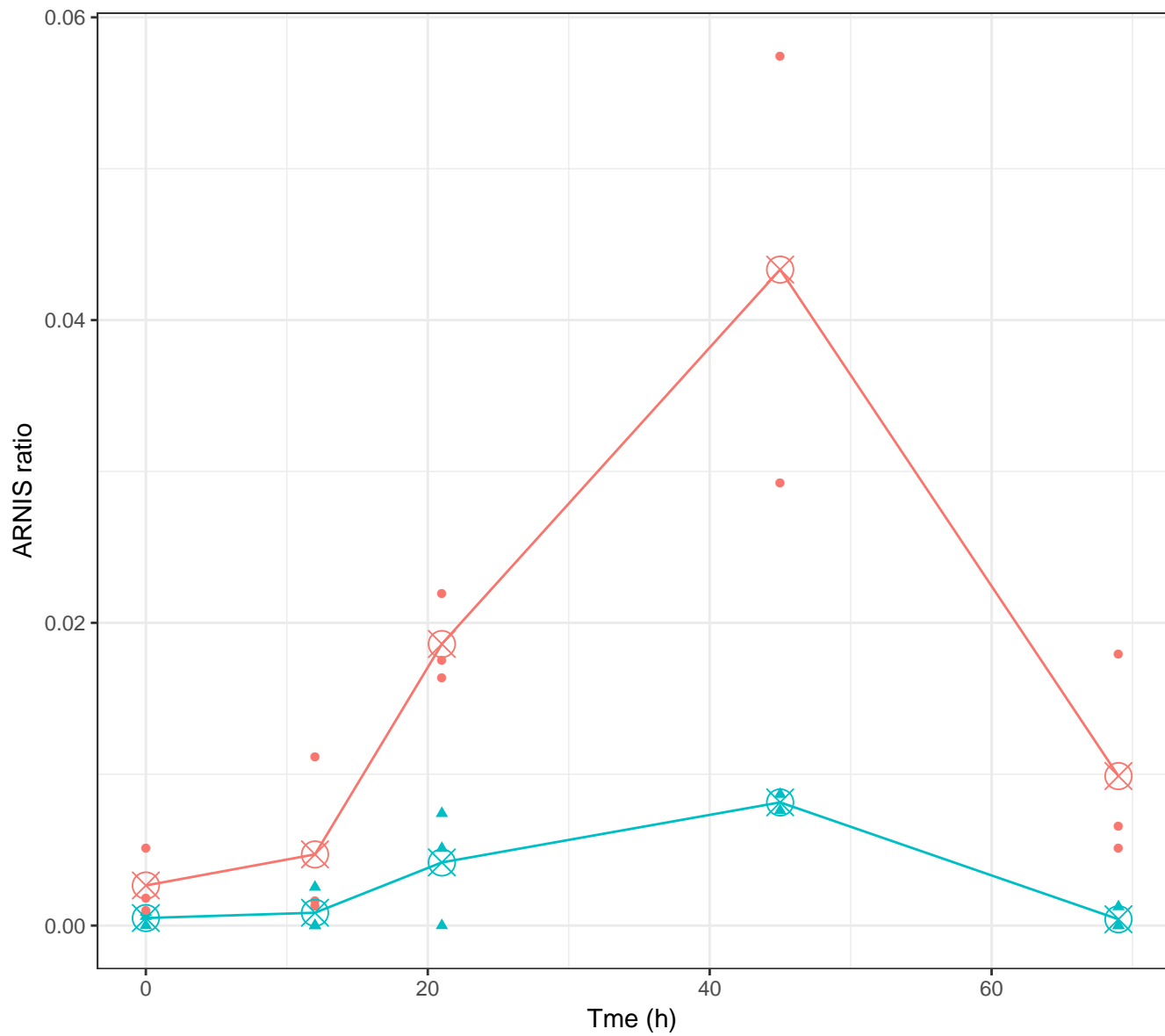
OTU.696_Gammaproteobacteria_Pseudomonas

Treatment Control Filtered-1micron



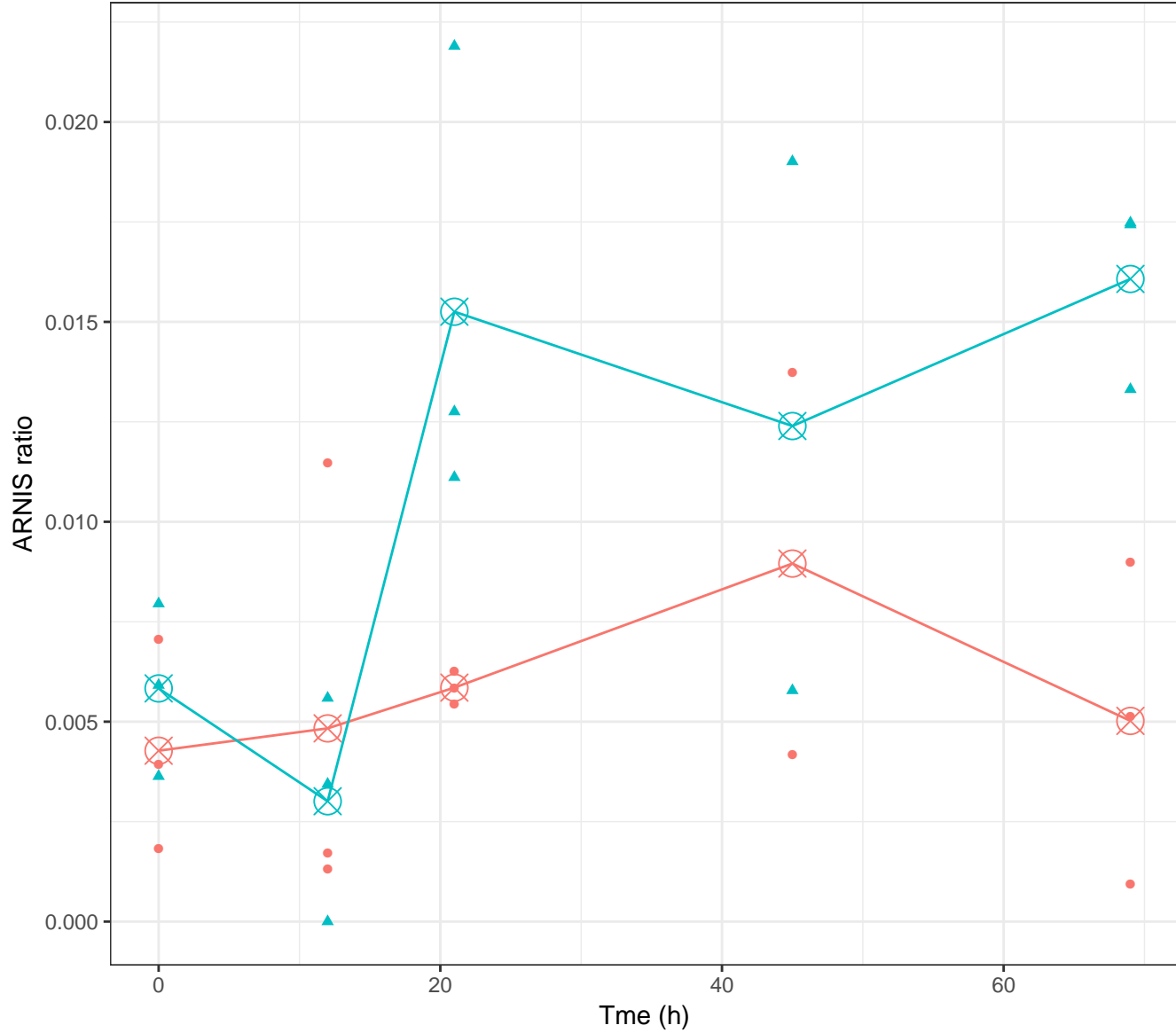
OTU.563_Bacteroidetes_PHOS.HE51

Treatment Control Filtered-1micron



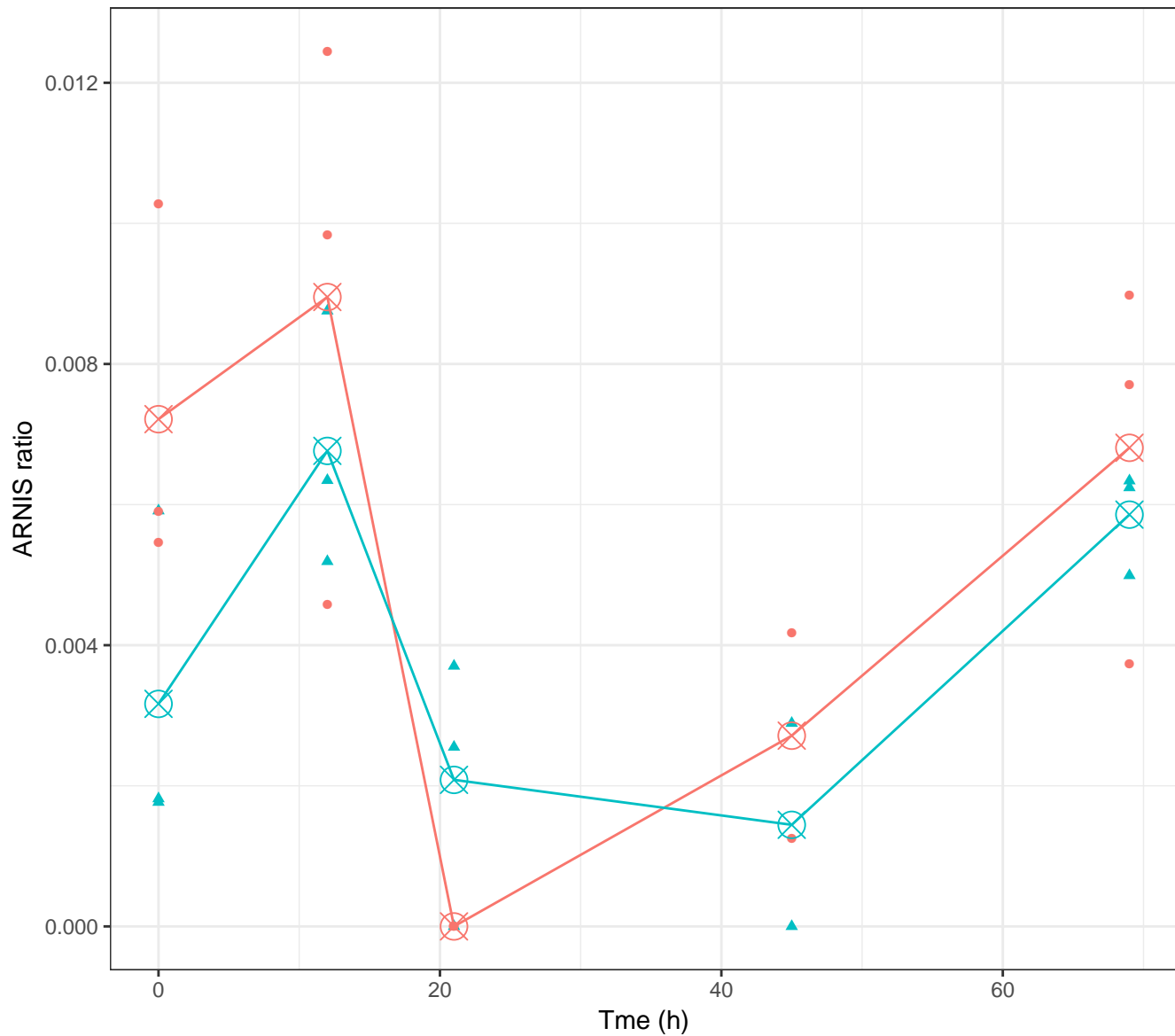
OTU.510_Bacteroidetes_Chitinophagaceae

Treatment ⊗ Control ⊗ Filtered-1micron



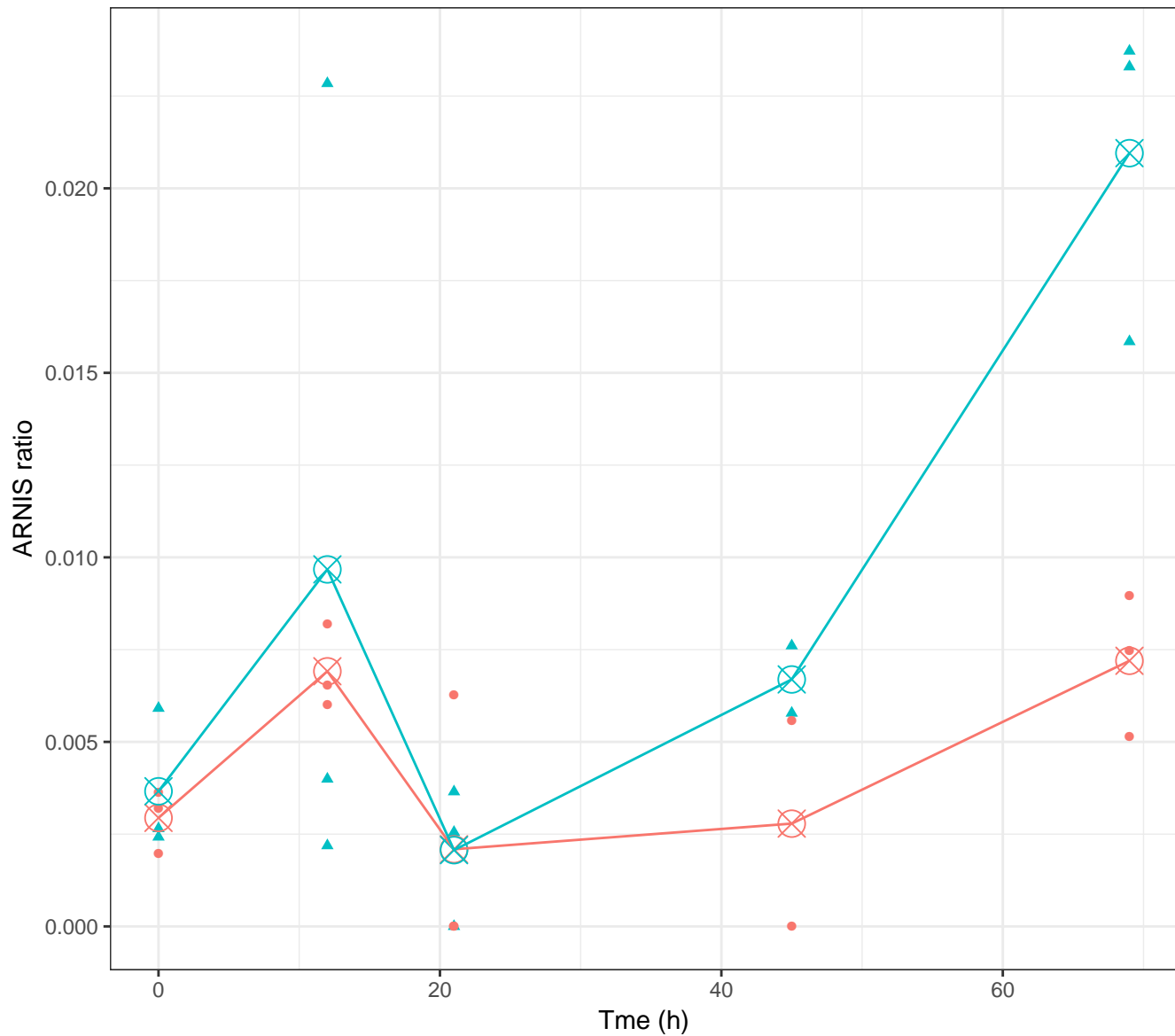
OTU.49_Chloroflexi_SL56_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron



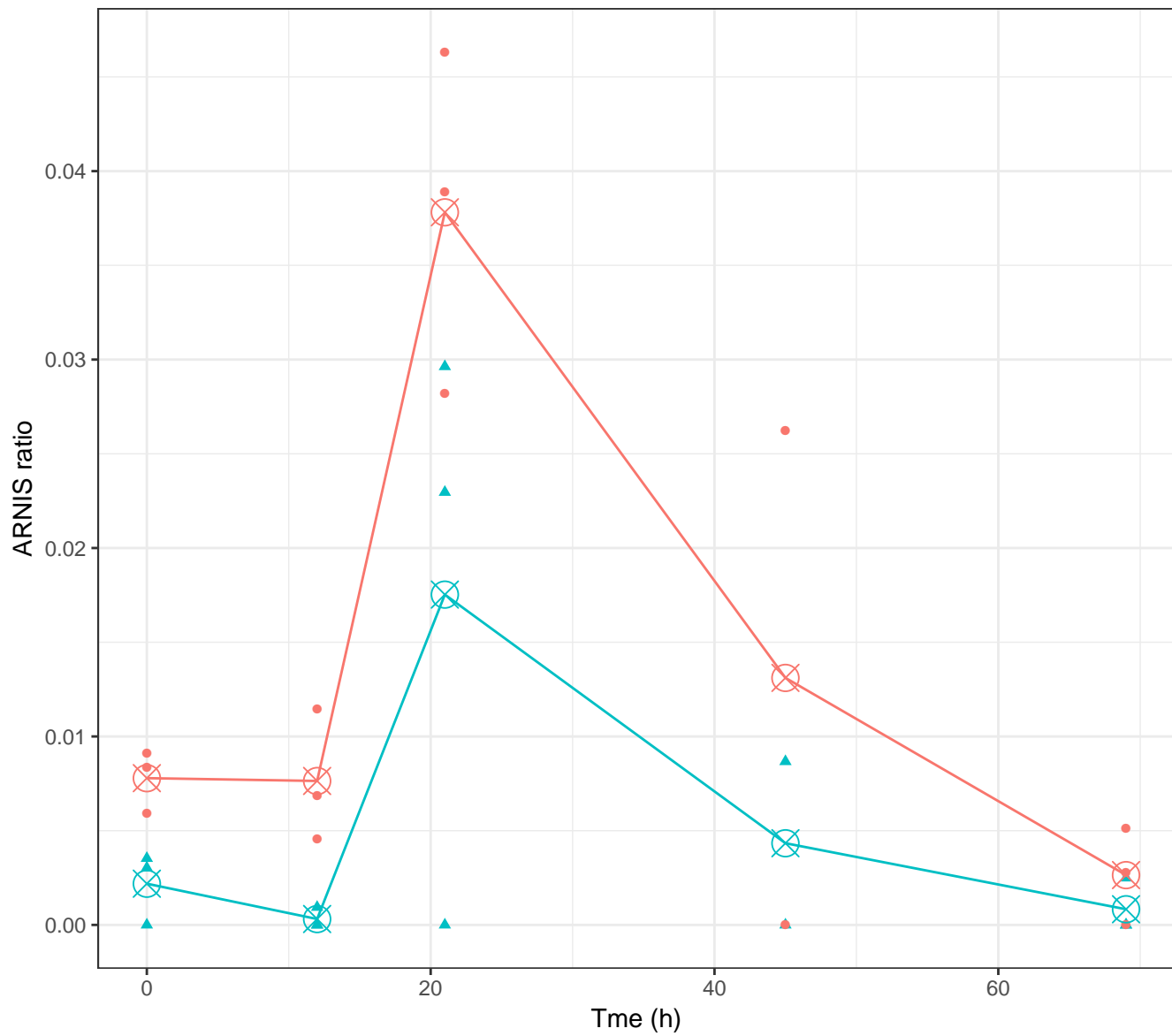
OTU.646_Alphaproteobacteria_Sandarakinorhabdus

Treatment Control Filtered-1micron



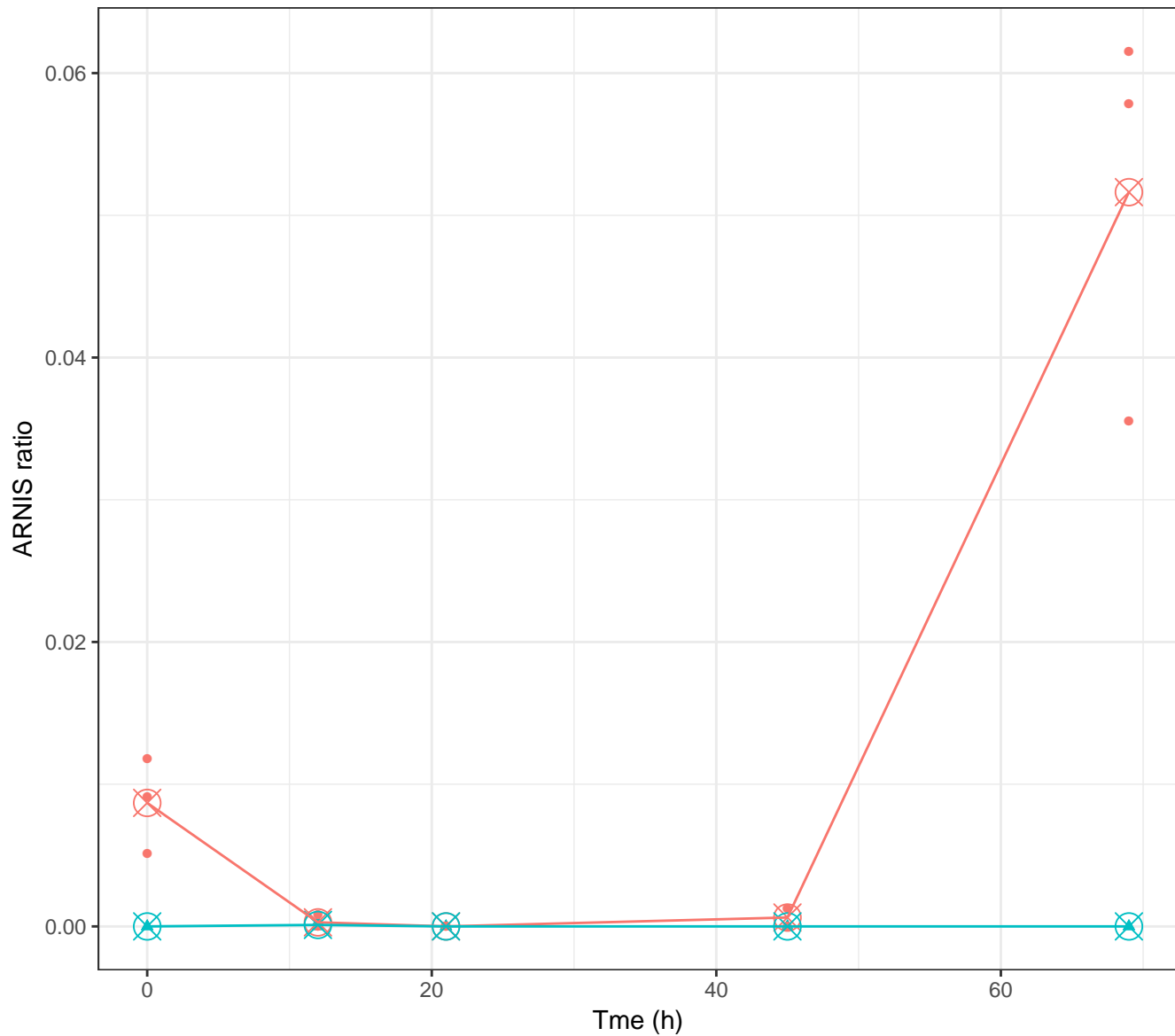
OTU.673_Planctomycetes_Pirellula

Treatment Control Filtered-1micron



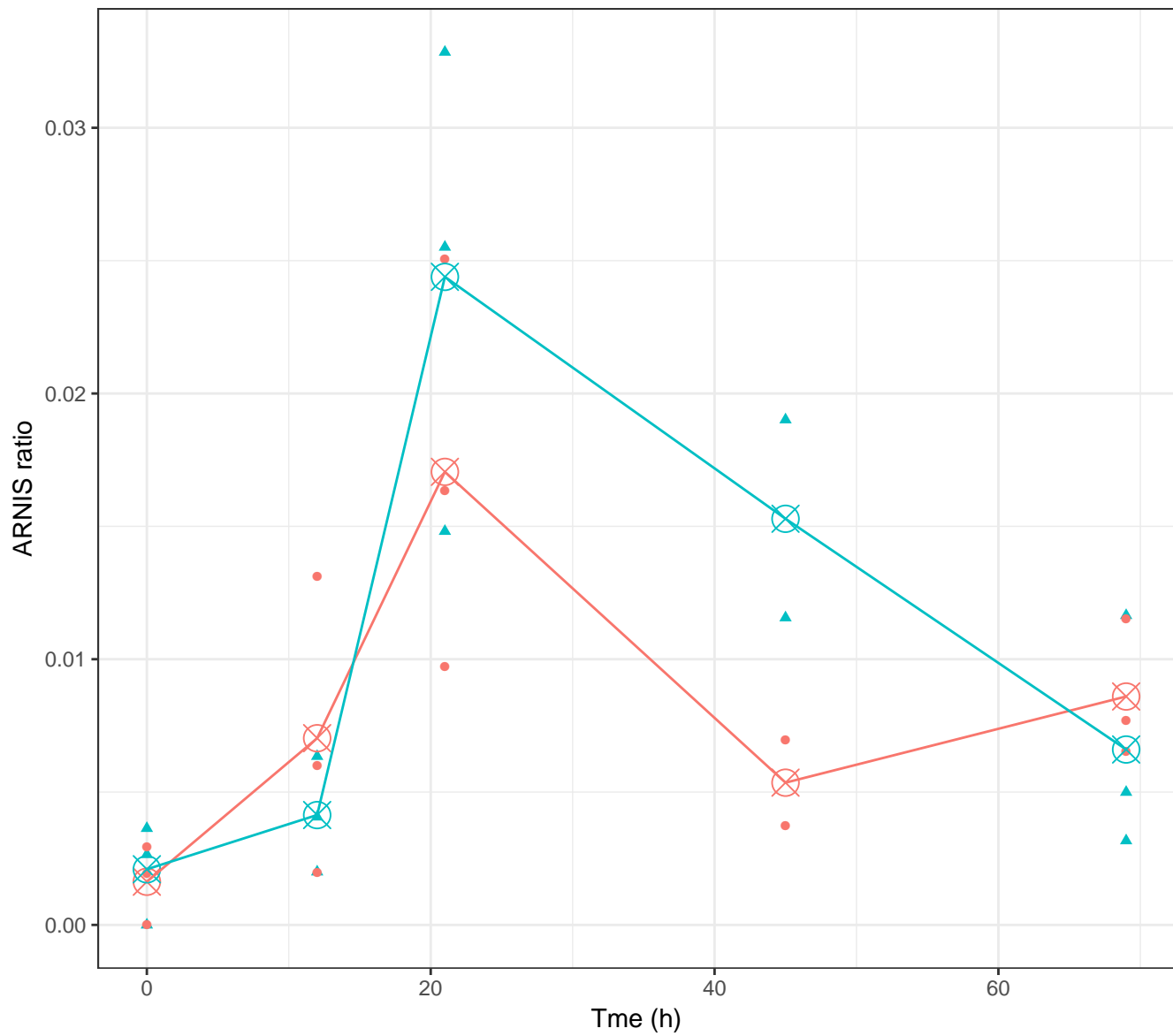
OTU.529_Planctomycetes_Planctomyces

Treatment Control Filtered-1micron



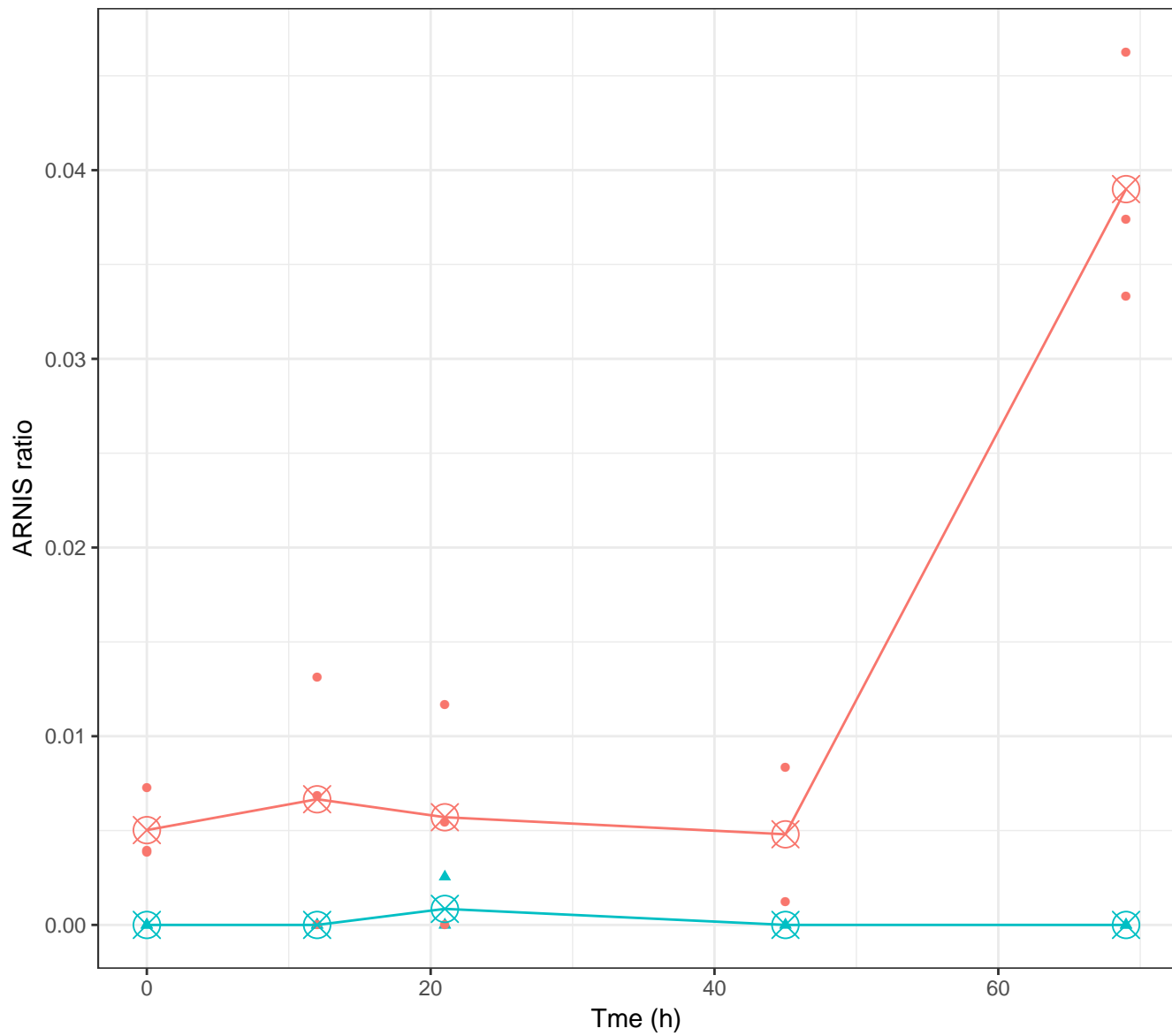
OTU.249_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



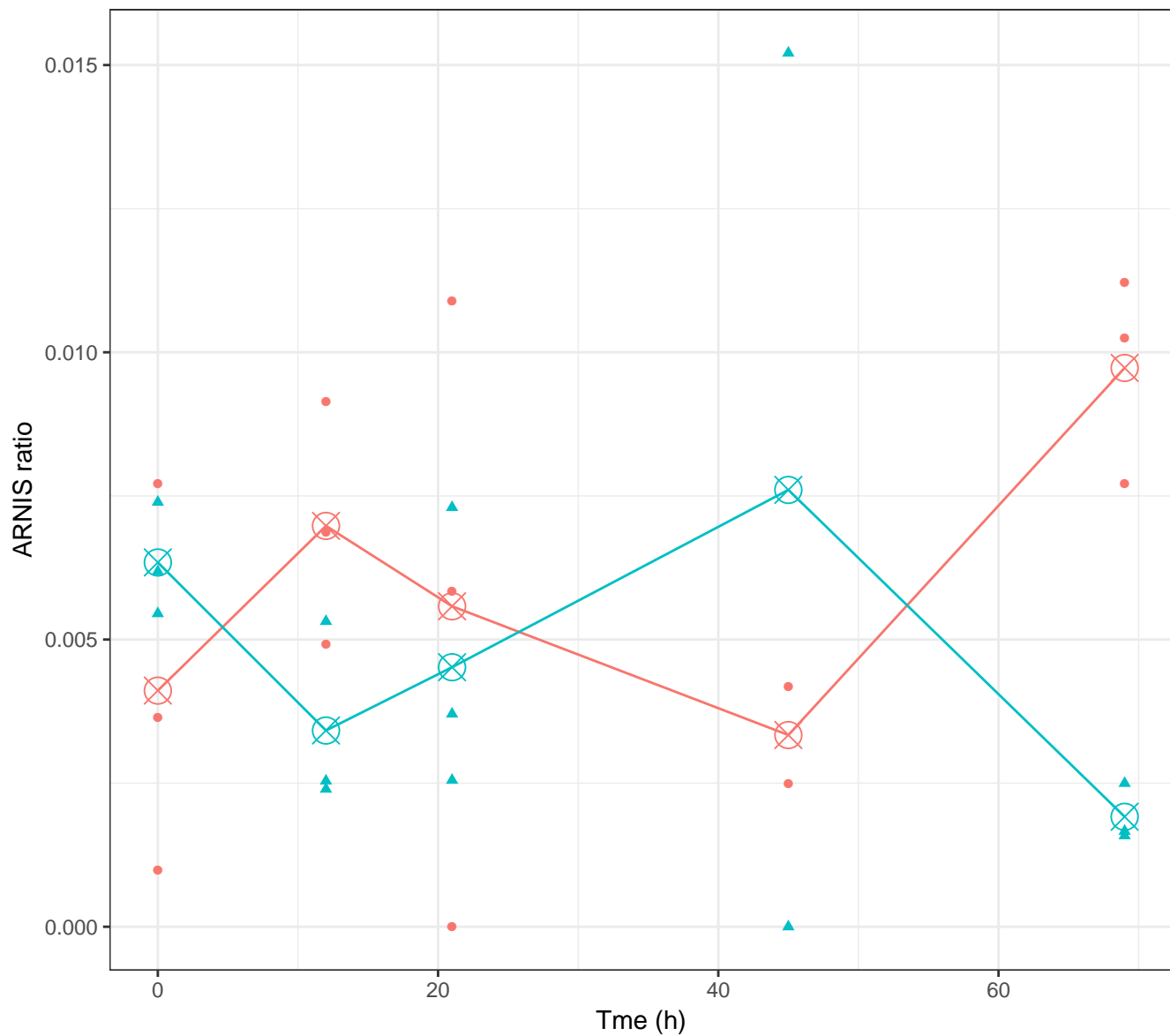
OTU.532_Deltaproteobacteria_mle1.27

Treatment Control Filtered-1micron



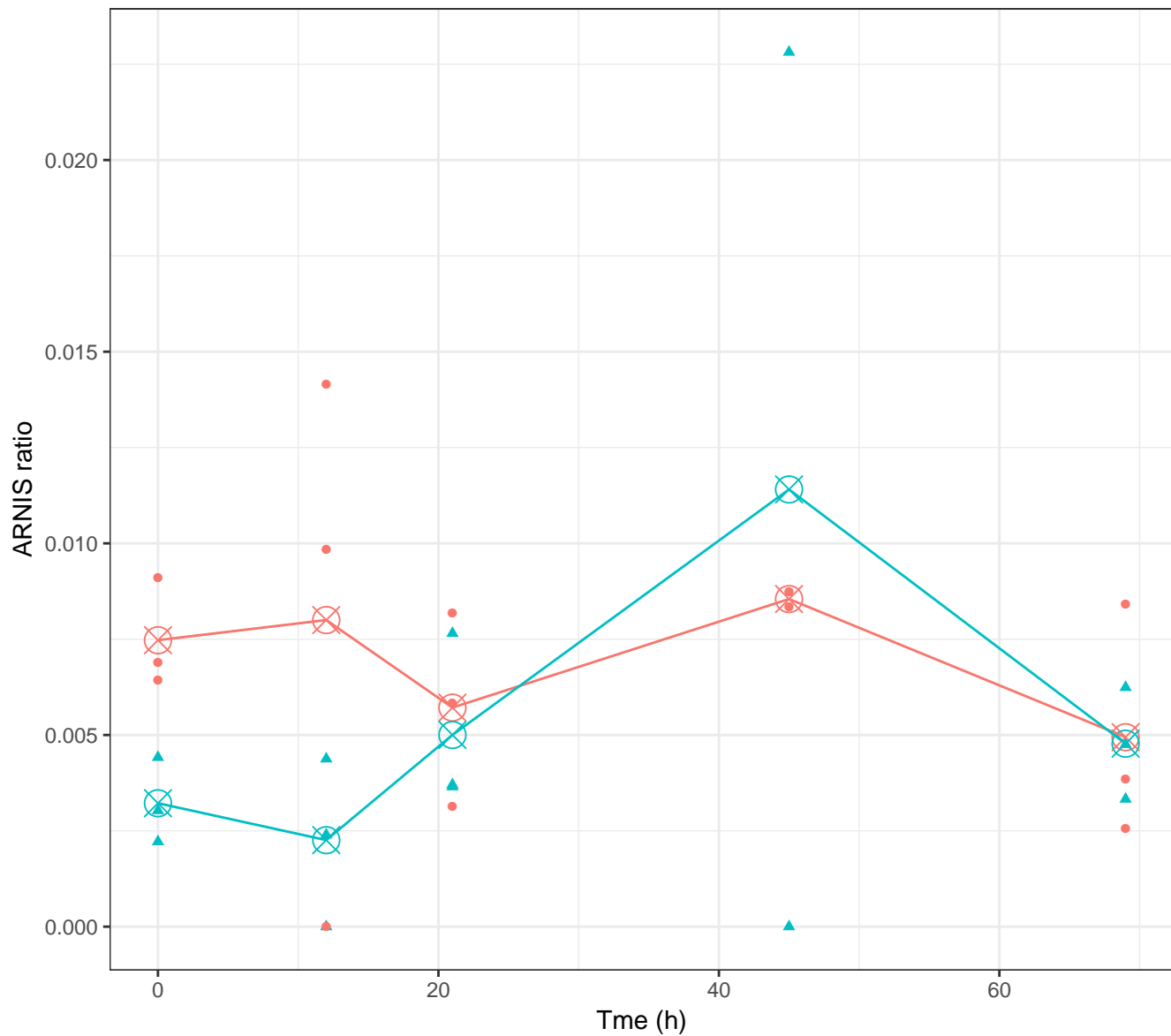
OTU.312_Chloroflexi_Roseiflexus

Treatment ⊗ Control ⊗ Filtered-1micron



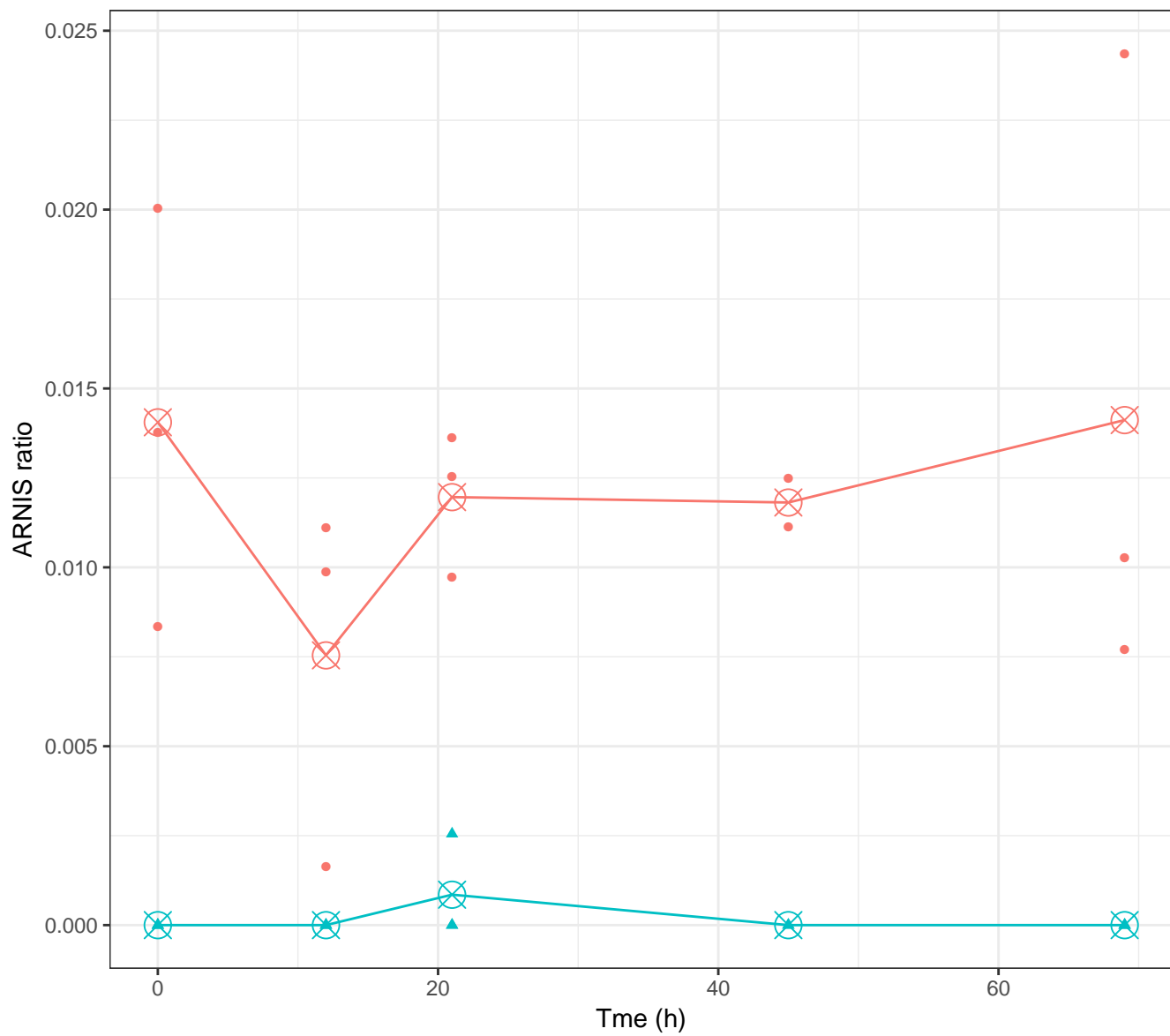
OTU.166_Actinobacteria_Microbacteriaceae

Treatment ⊗ Control ⊗ Filtered-1micron



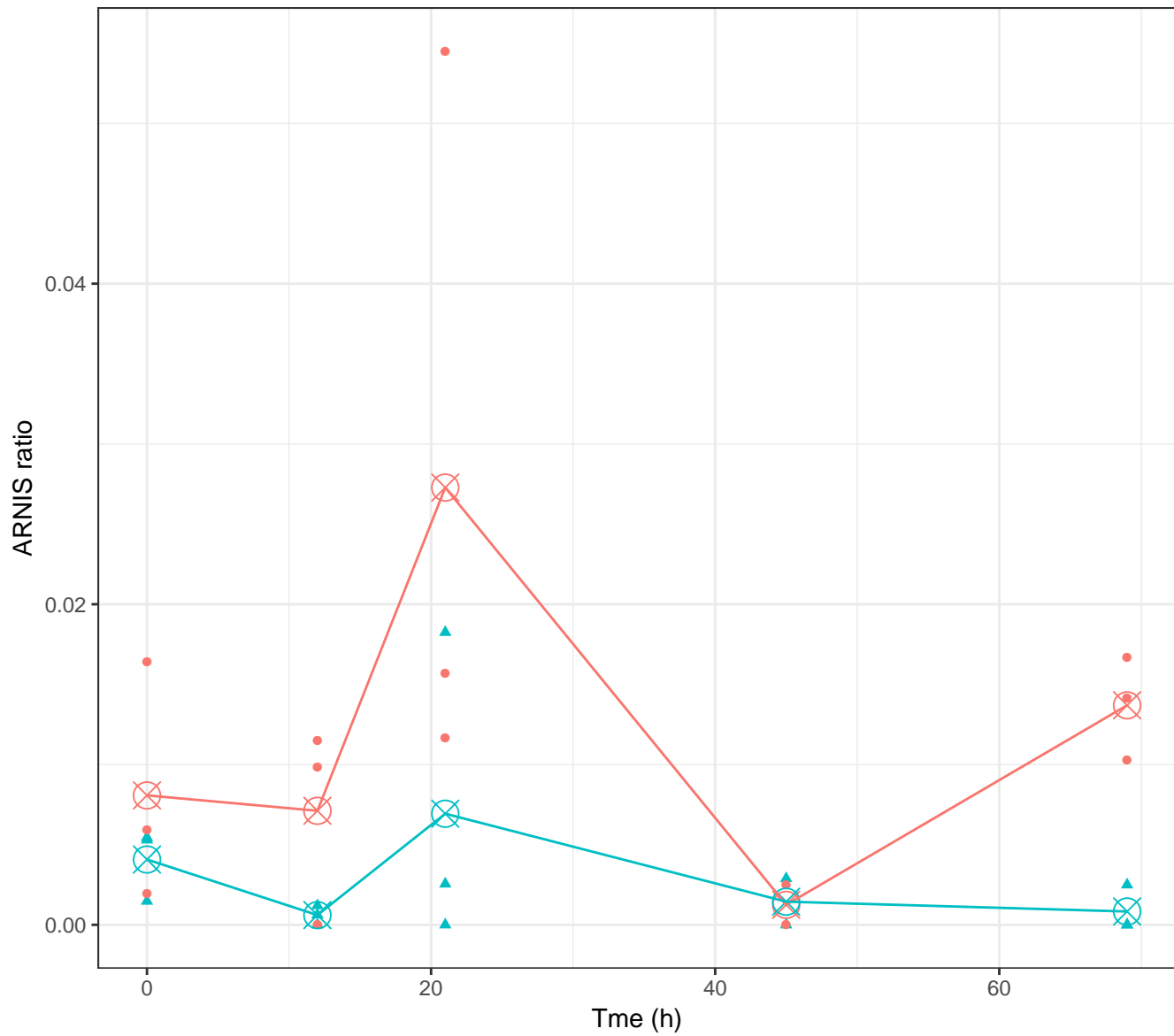
OTU.530_Planctomyces_Planctomyces

Treatment Control Filtered-1micron



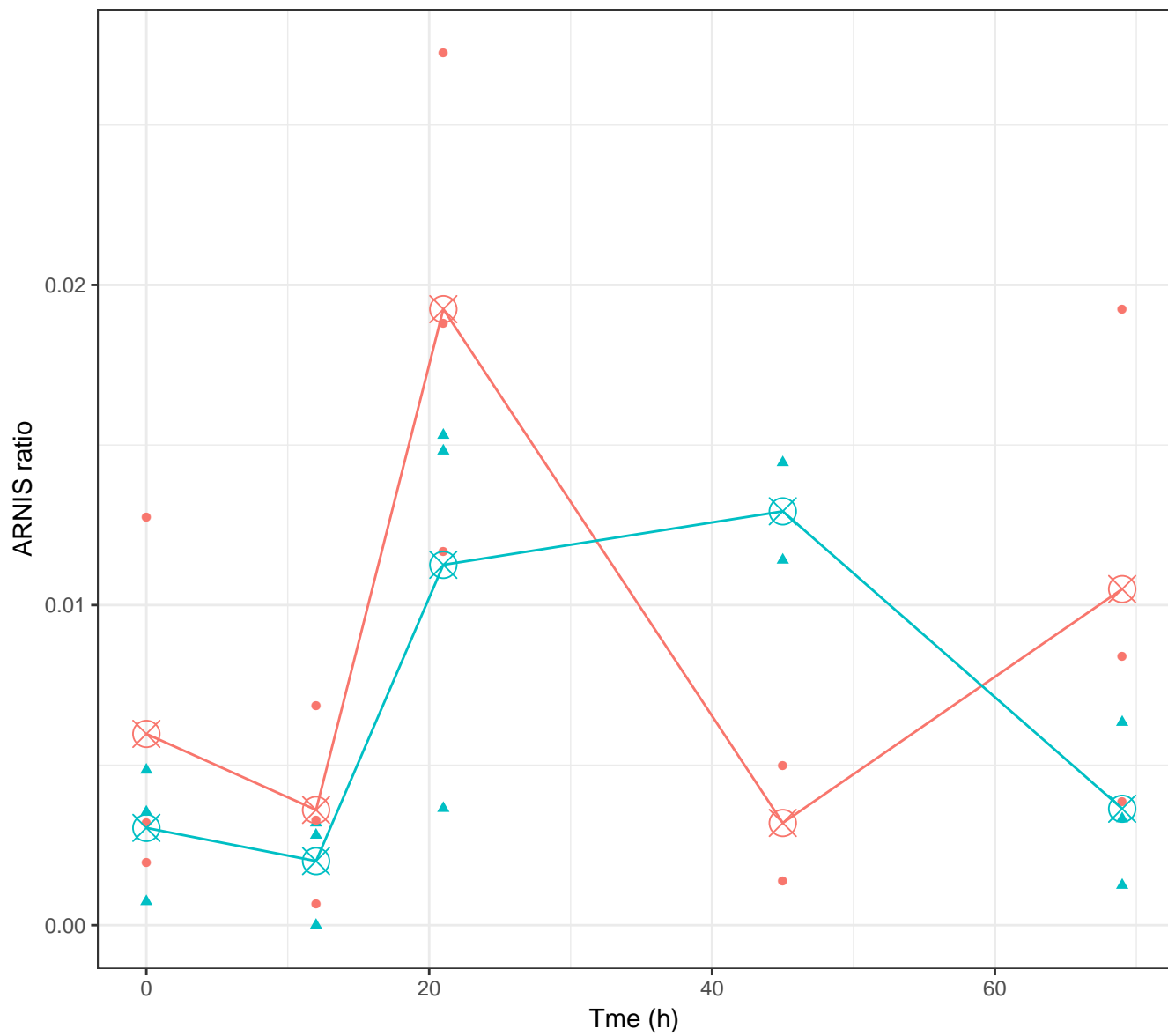
OTU.538_Bacteroidetes_Elizabethkingia

Treatment Control Filtered-1micron



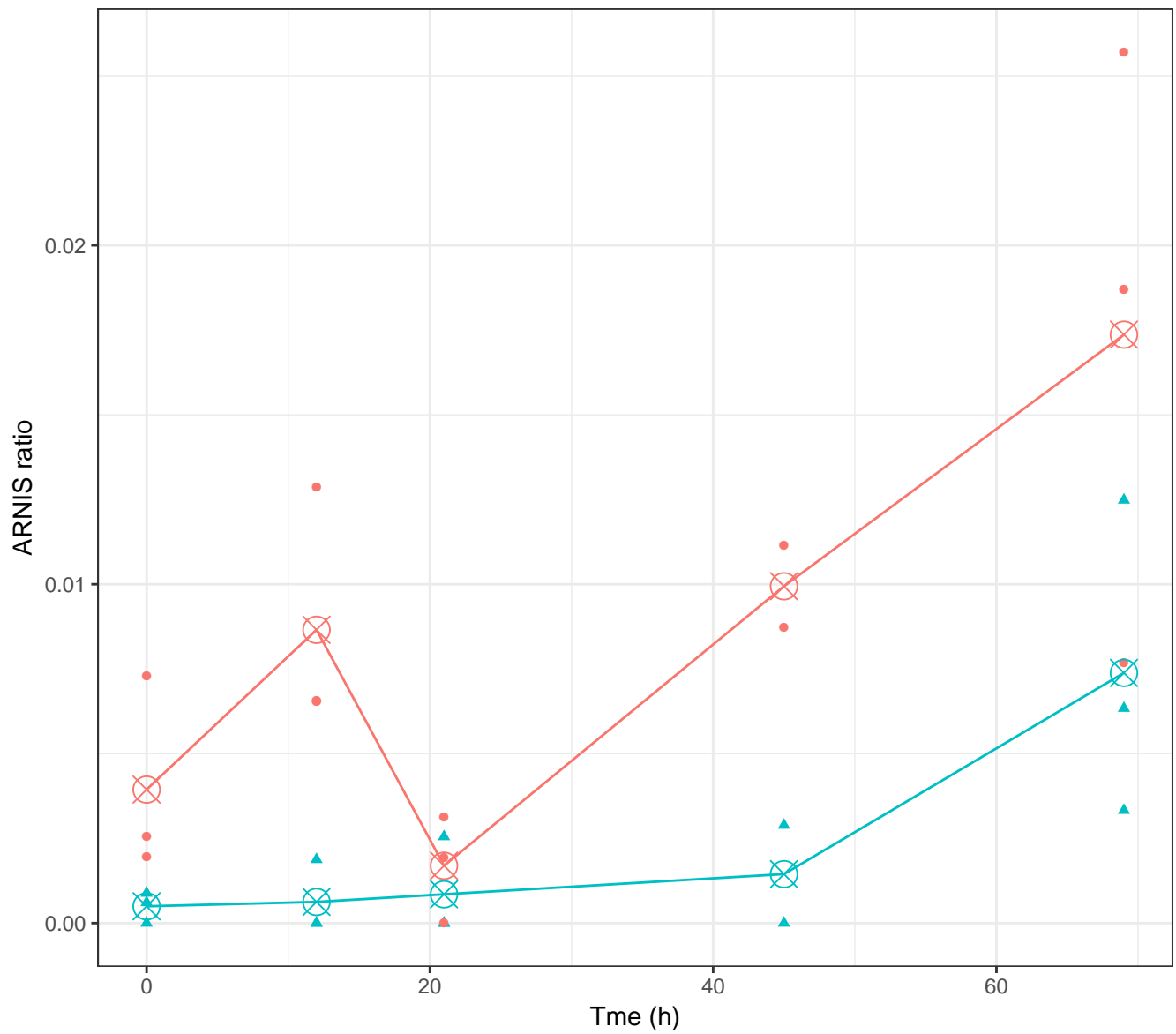
OTU.36_Bacteroidetes_Fluviicola

Treatment Control Filtered-1micron



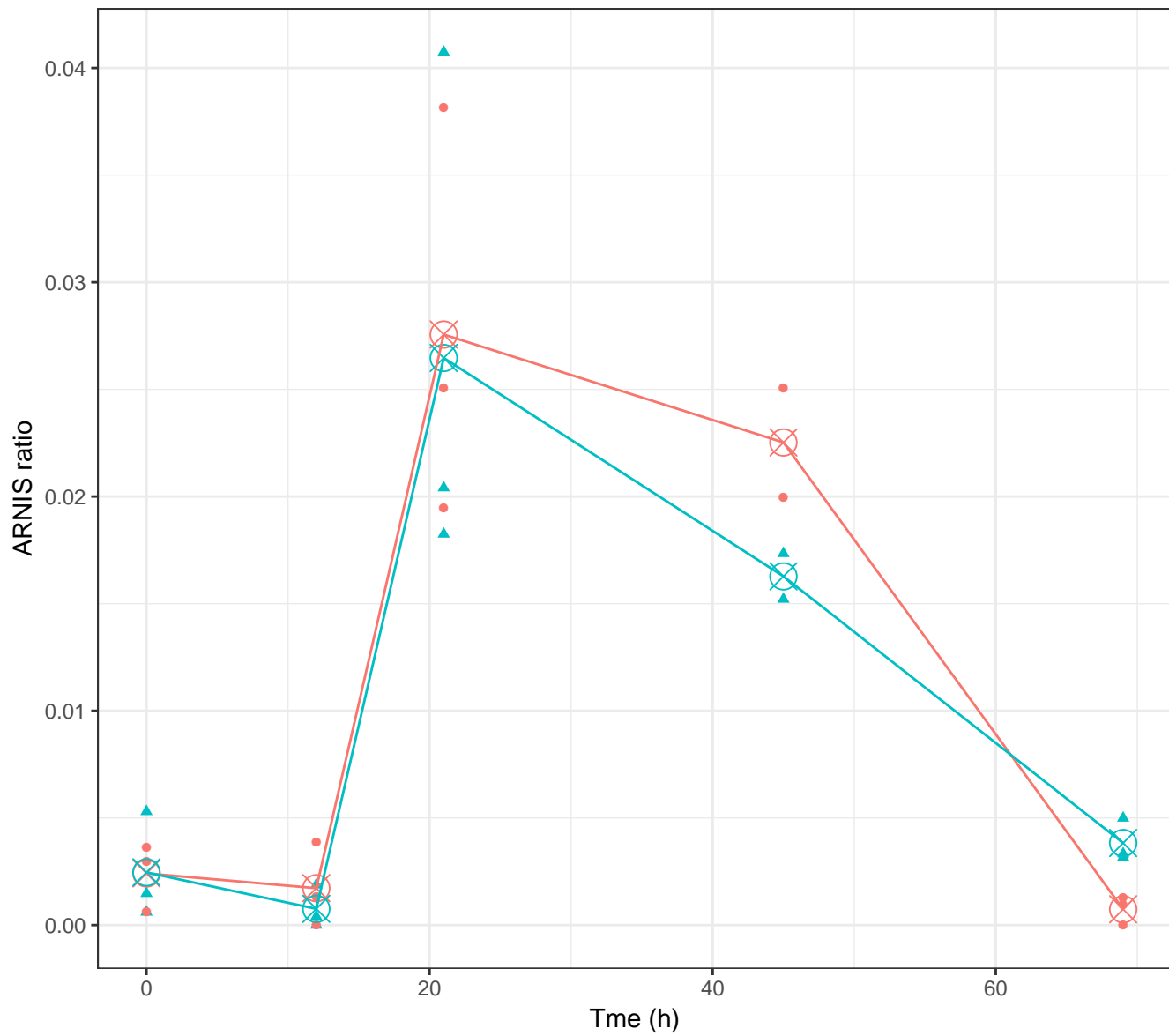
OTU.500_Alphaproteobacteria_Hyphomonadaceae

Treatment Control Filtered-1micron



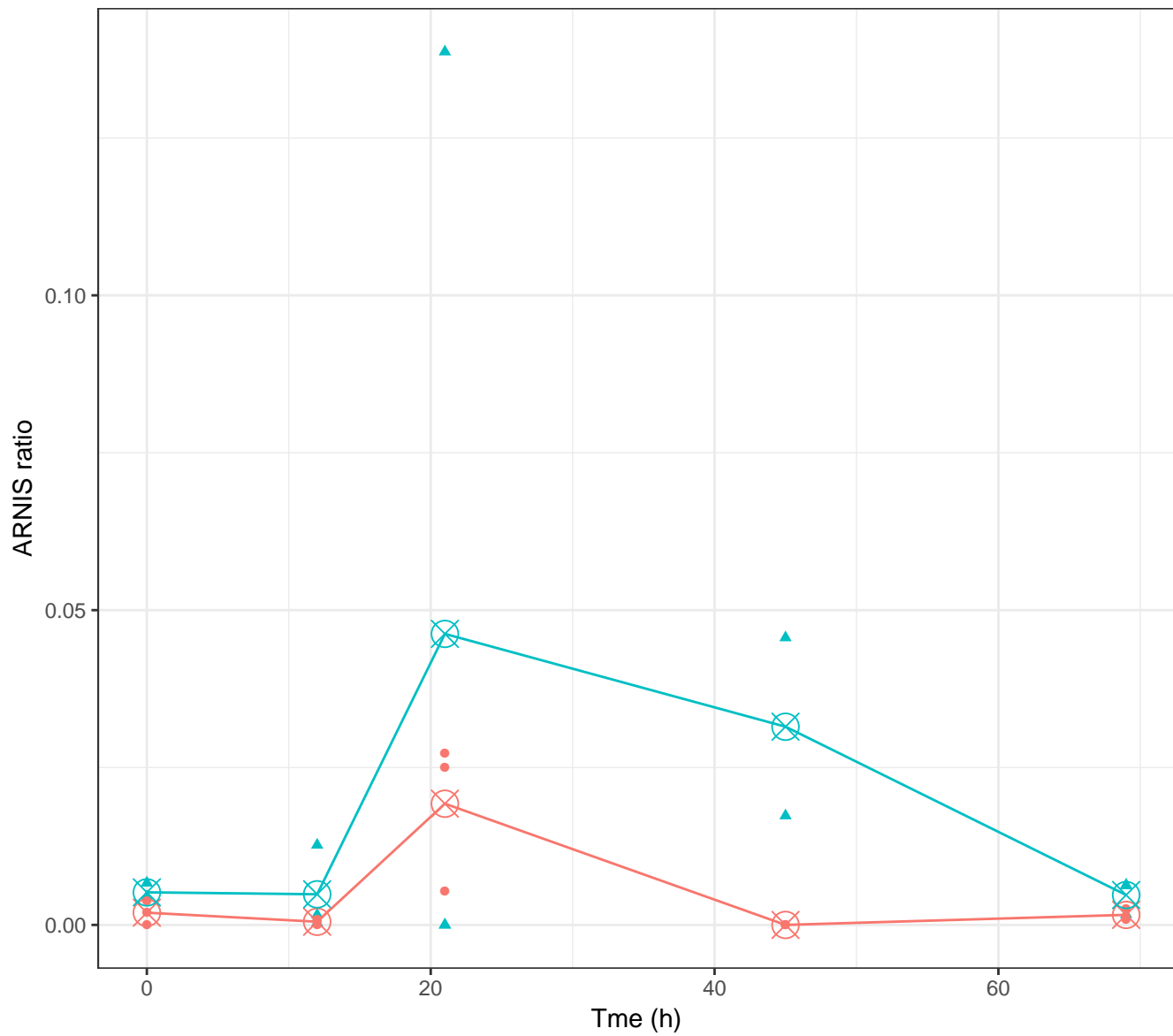
OTU.499_Firmicutes_Weissella_1

Treatment Control Filtered-1micron



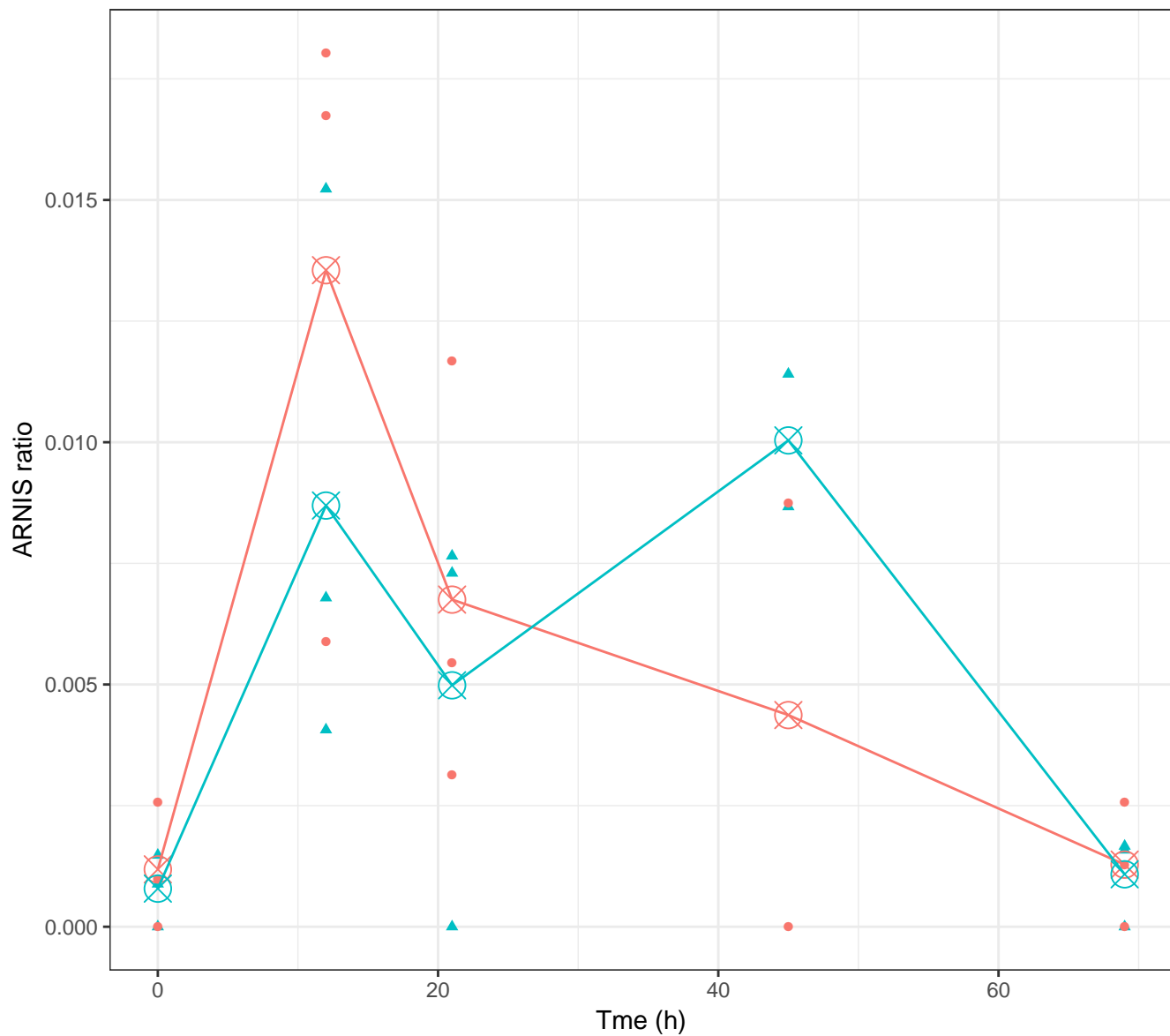
OTU.10014_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron



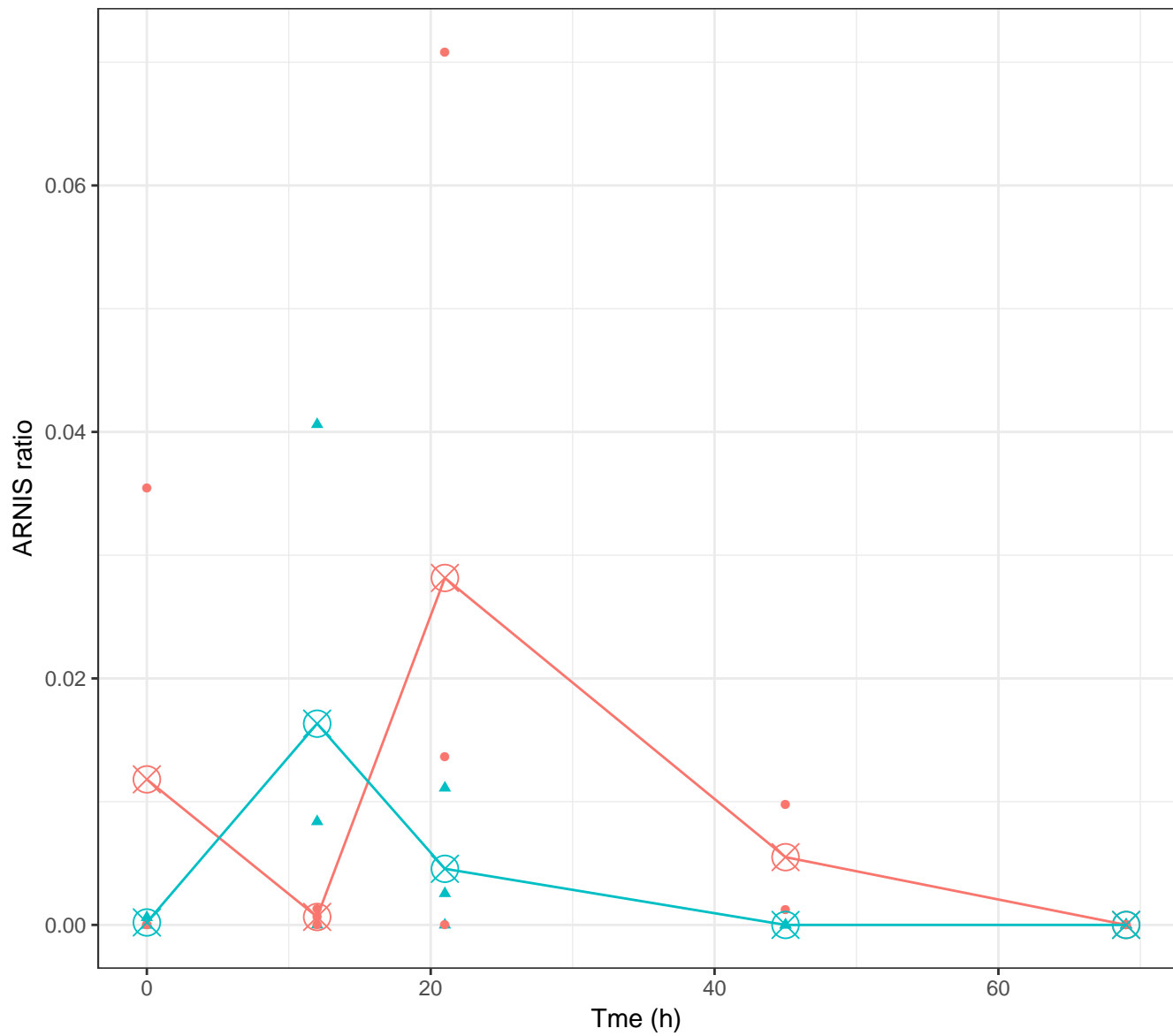
OTU.4_Bacteroidetes_Flavobacterium

Treatment Control Filtered-1micron



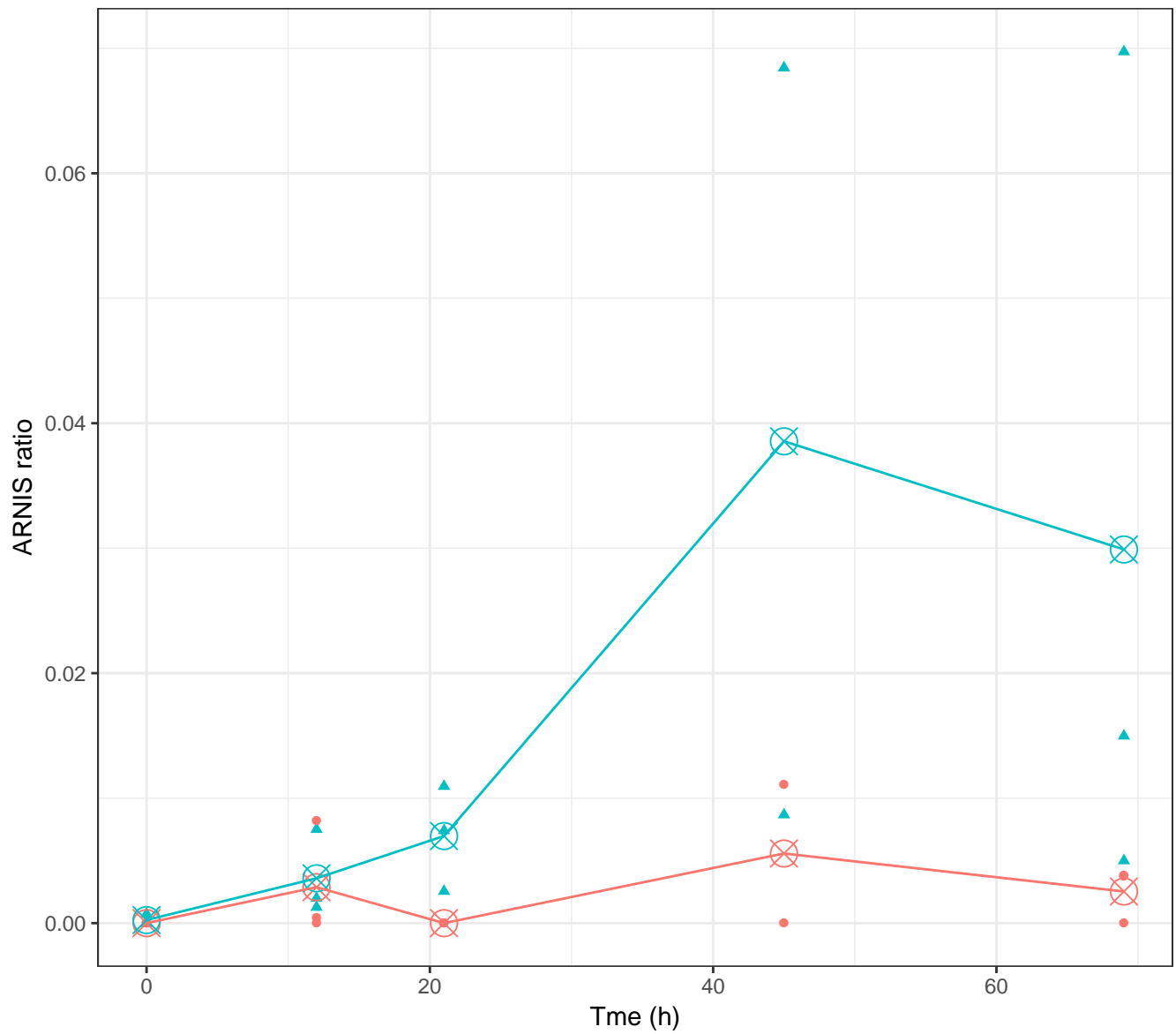
OTU.4673_Gammaproteobacteria_Acinetobacter

Treatment Control Filtered-1micron



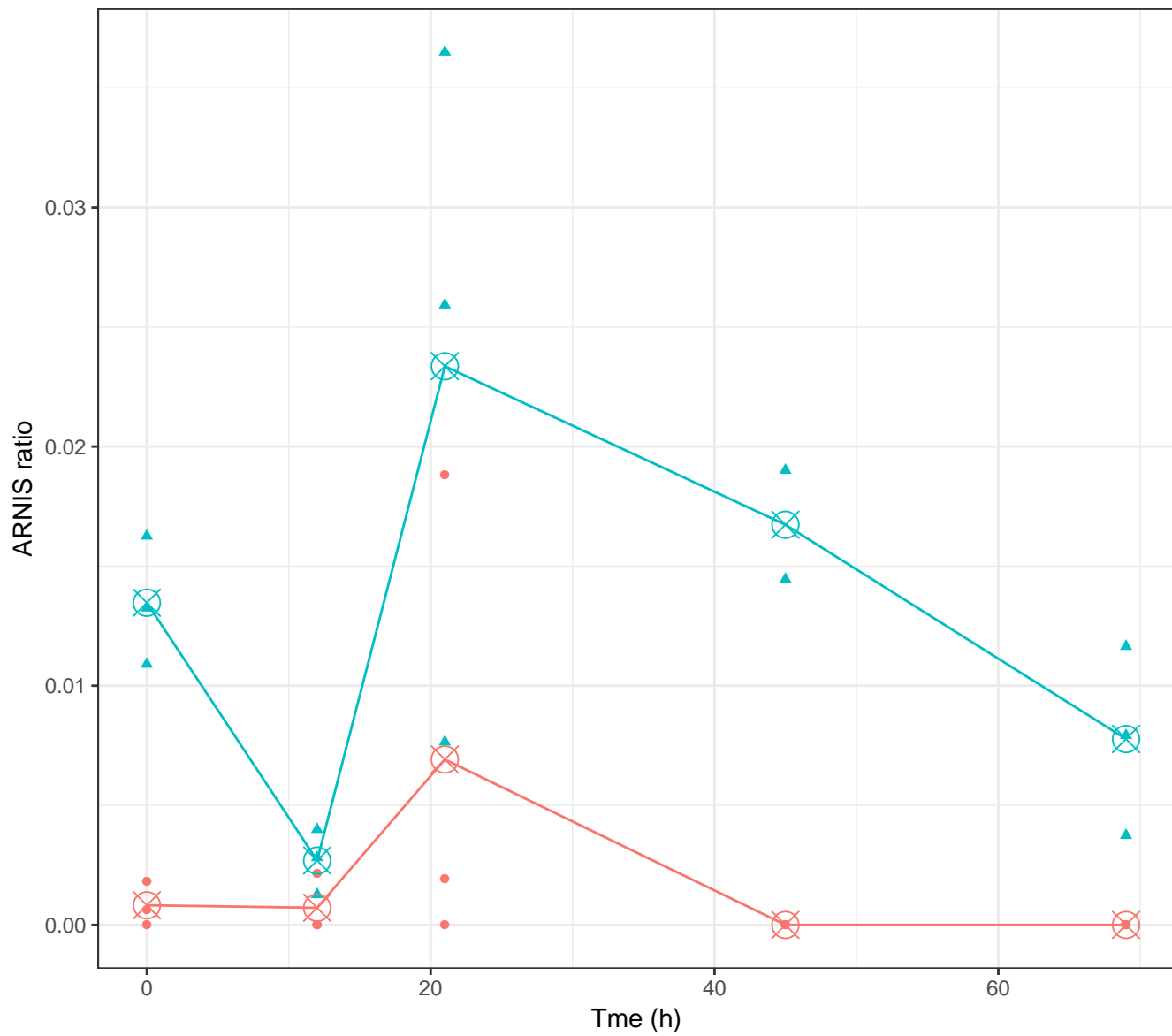
OTU.644_Gammaproteobacteria_Rheinheimera

Treatment Control Filtered-1micron



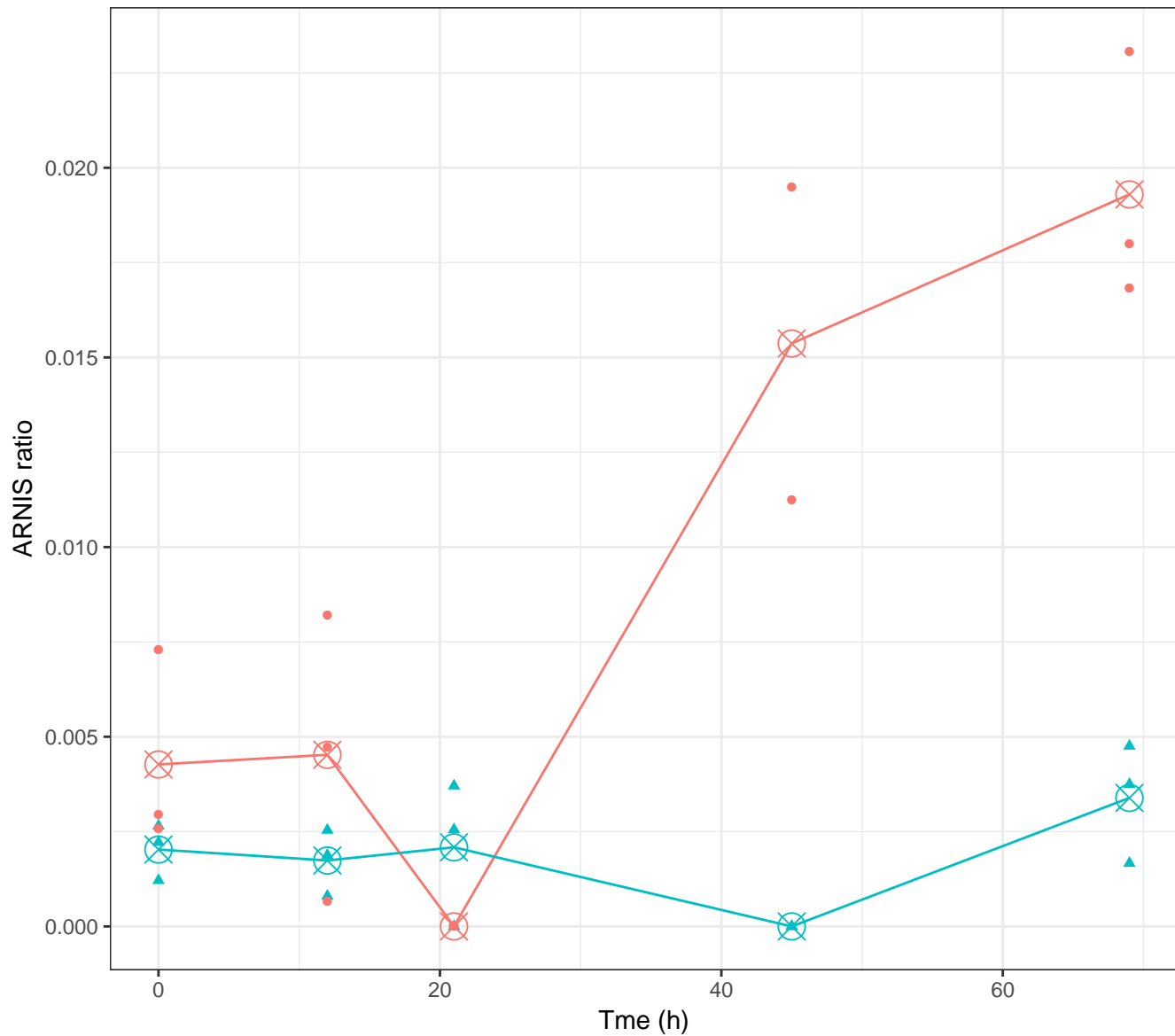
OTU.241_Betaproteobacteria_Methylophilaceae_PRD01a011B

Treatment Control Filtered-1micron



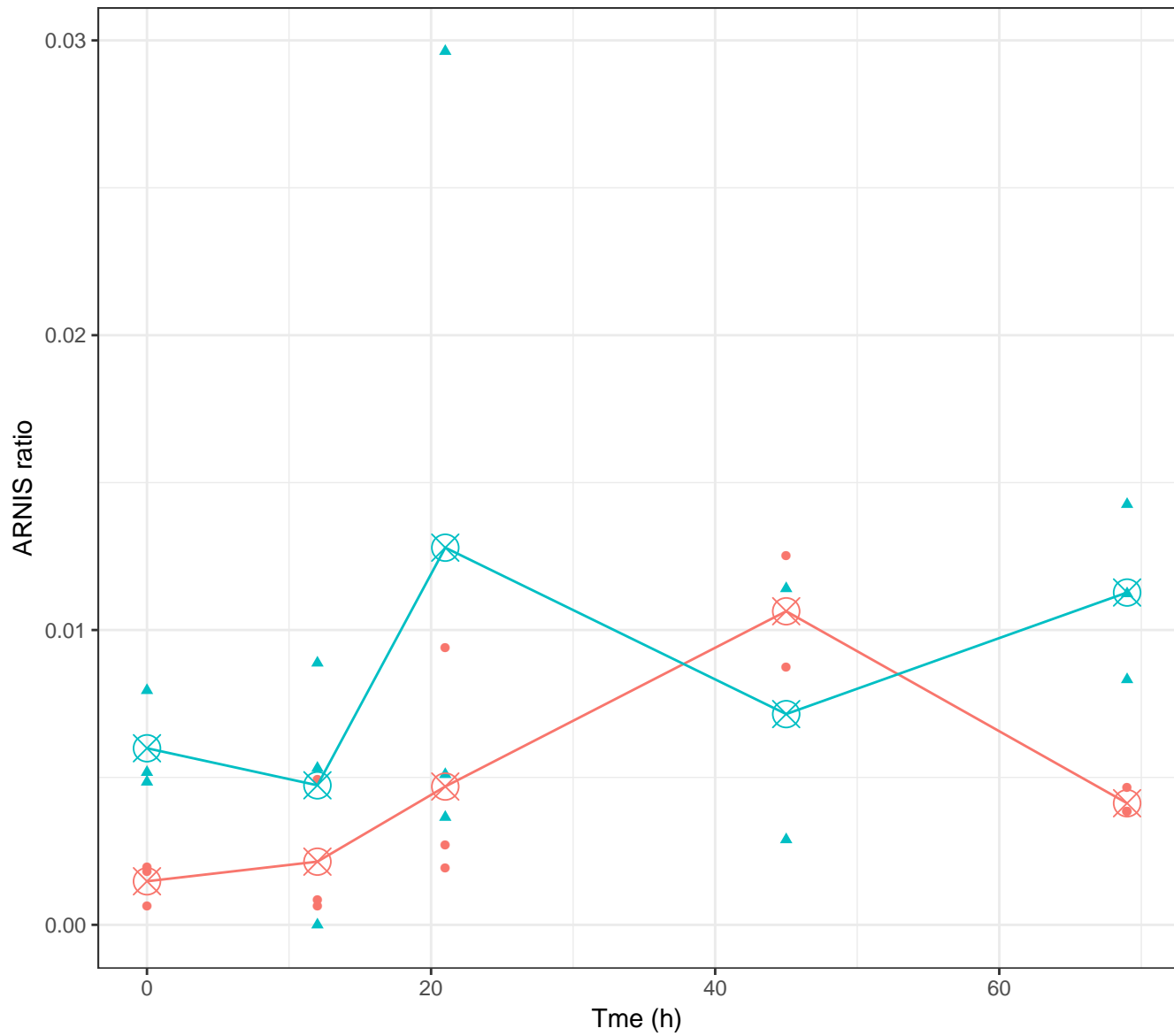
OTU.620_Gammaproteobacteria_BD1.7_clade

Treatment ⊗ Control ⊗ Filtered-1micron



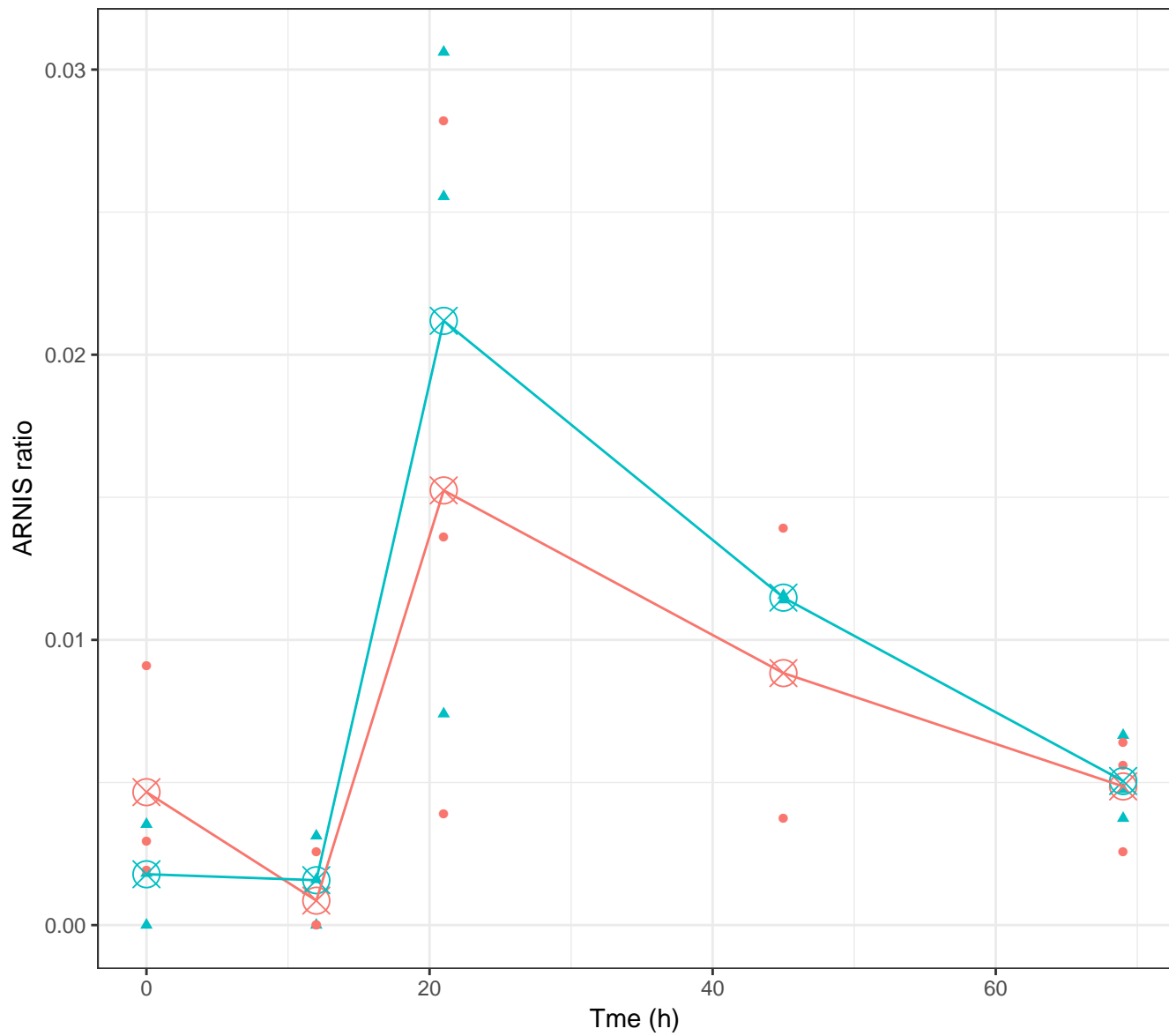
OTU.570_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



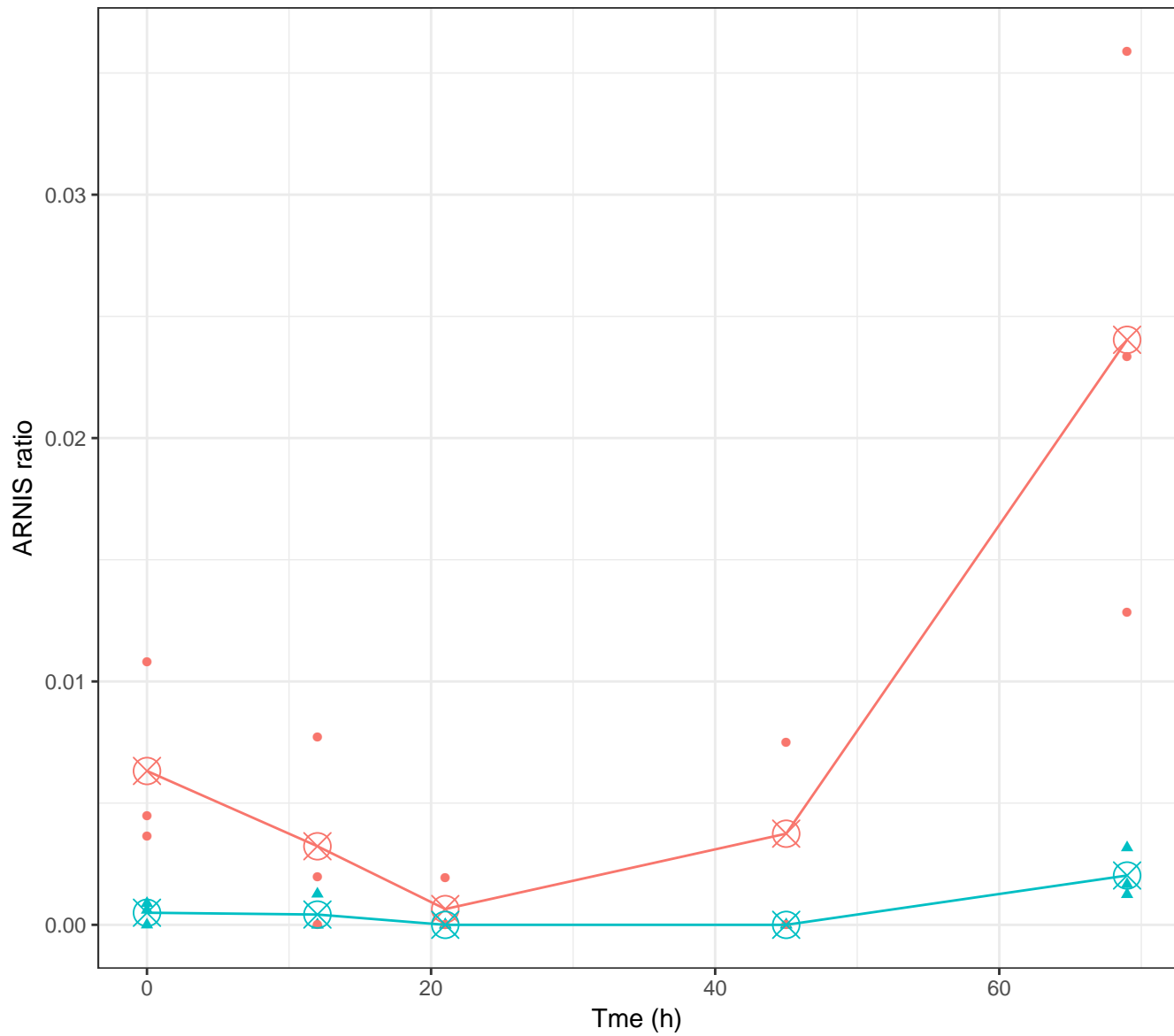
OTU.4565_Bacteroidetes_Flavobacterium

Treatment Control Filtered-1micron



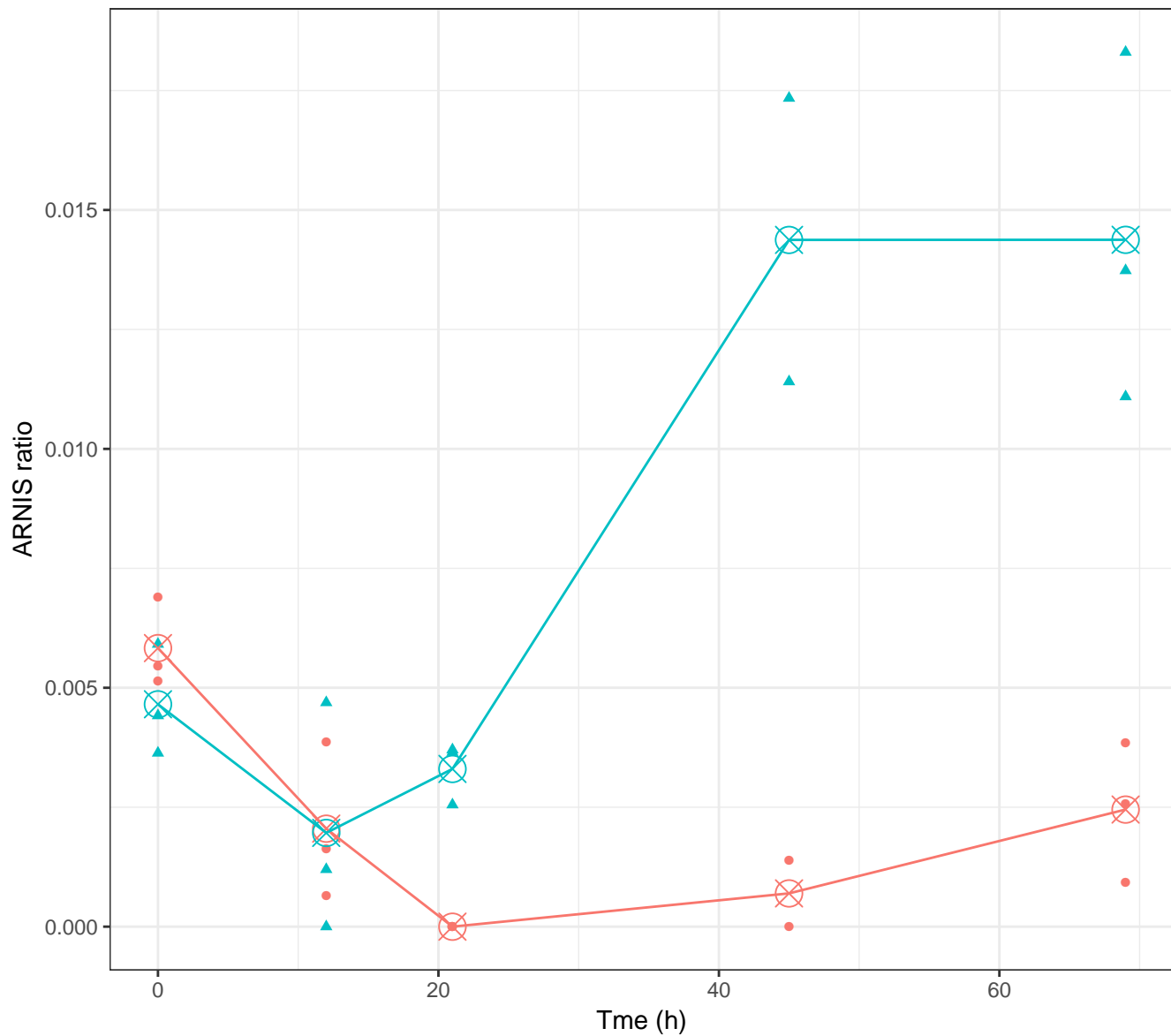


OTU.628_Alphaproteobacteria_Phenylobacterium

Treatment Control Filtered-1micron

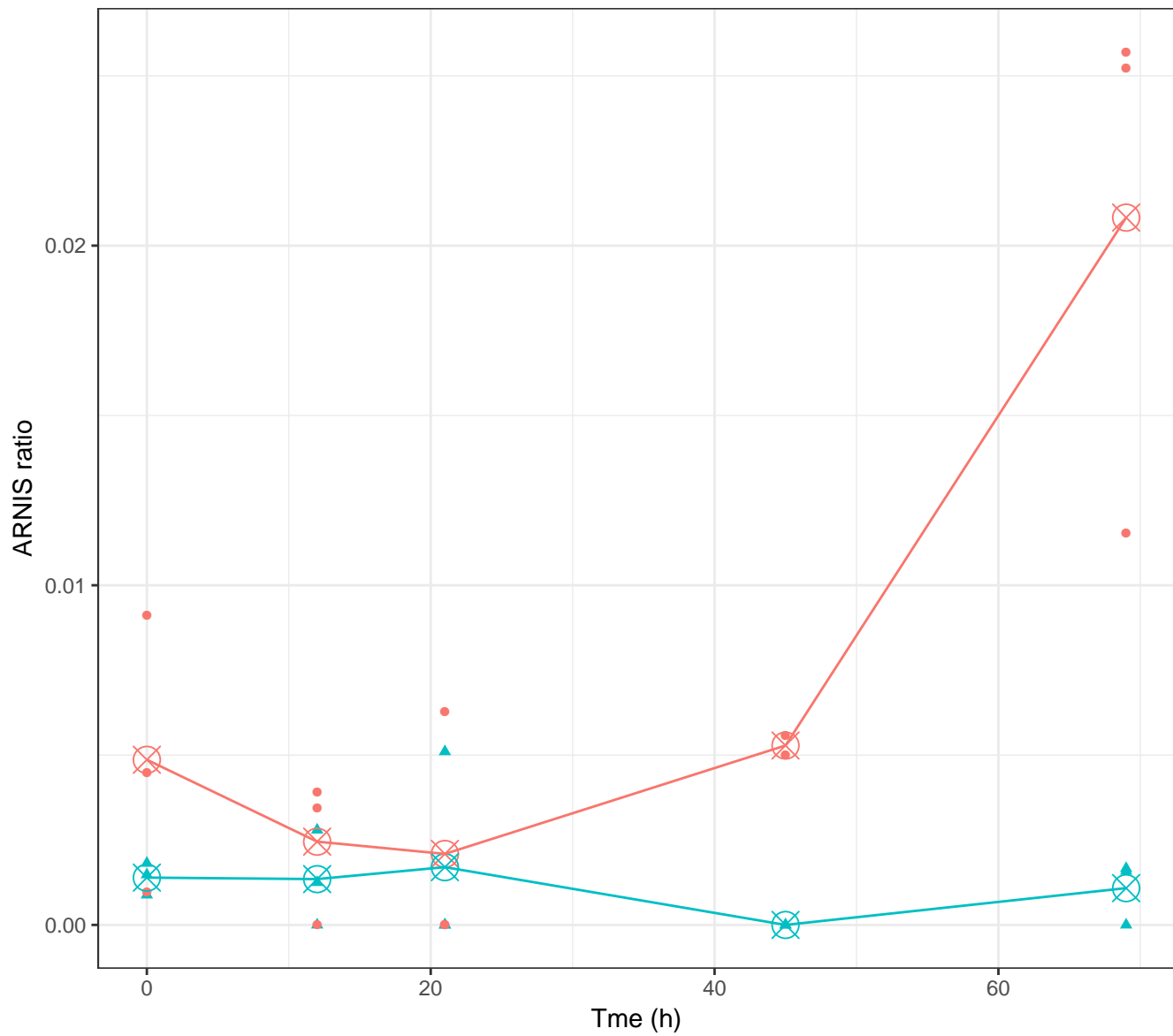


OTU.671_Gemmatimonadetes_Gemmatimonadaceae

Treatment  Control  Filtered-1micron

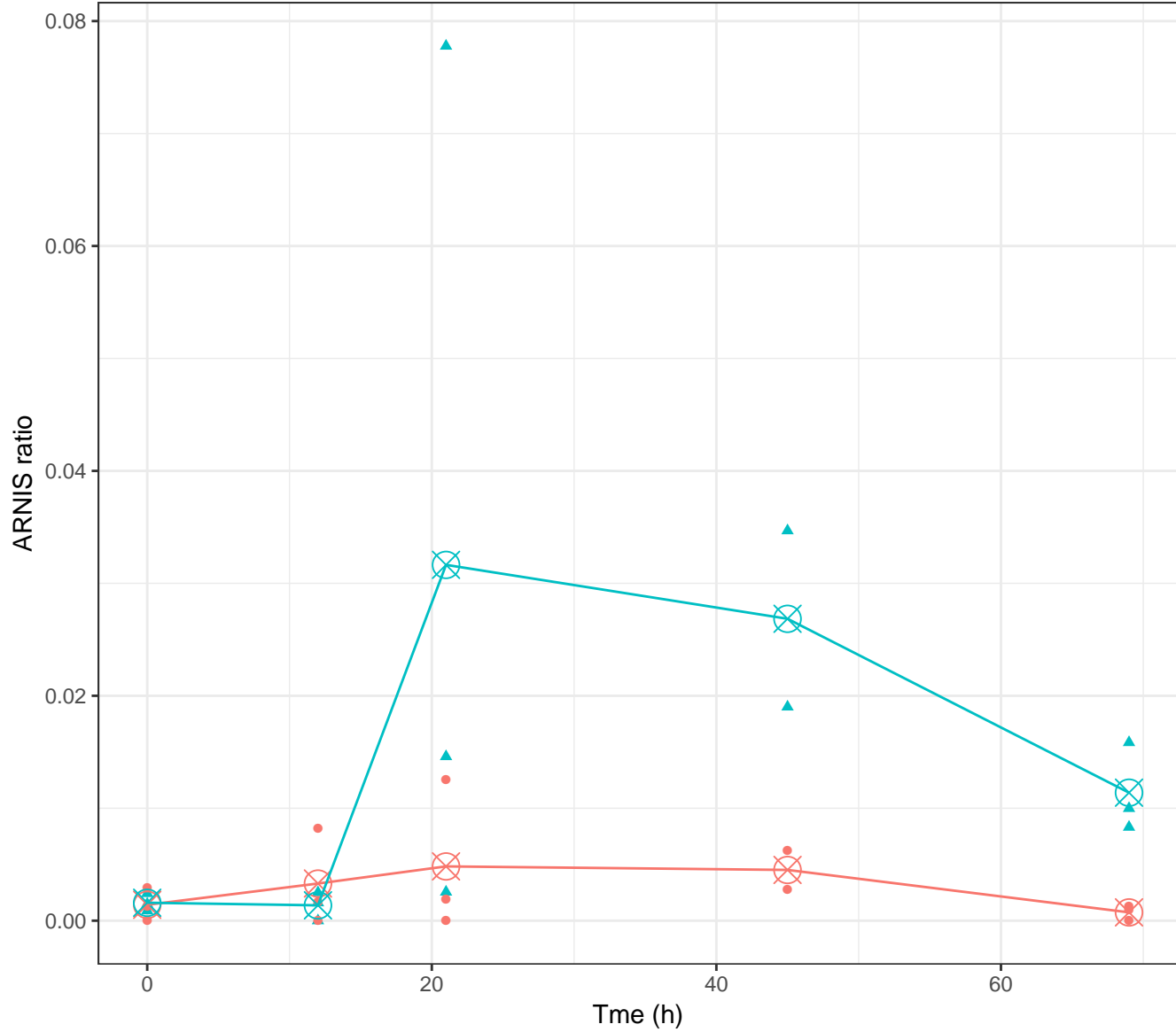
OTU.632_Alphaproteobacteria_SM2D12

Treatment ⊗ Control ⊗ Filtered-1micron



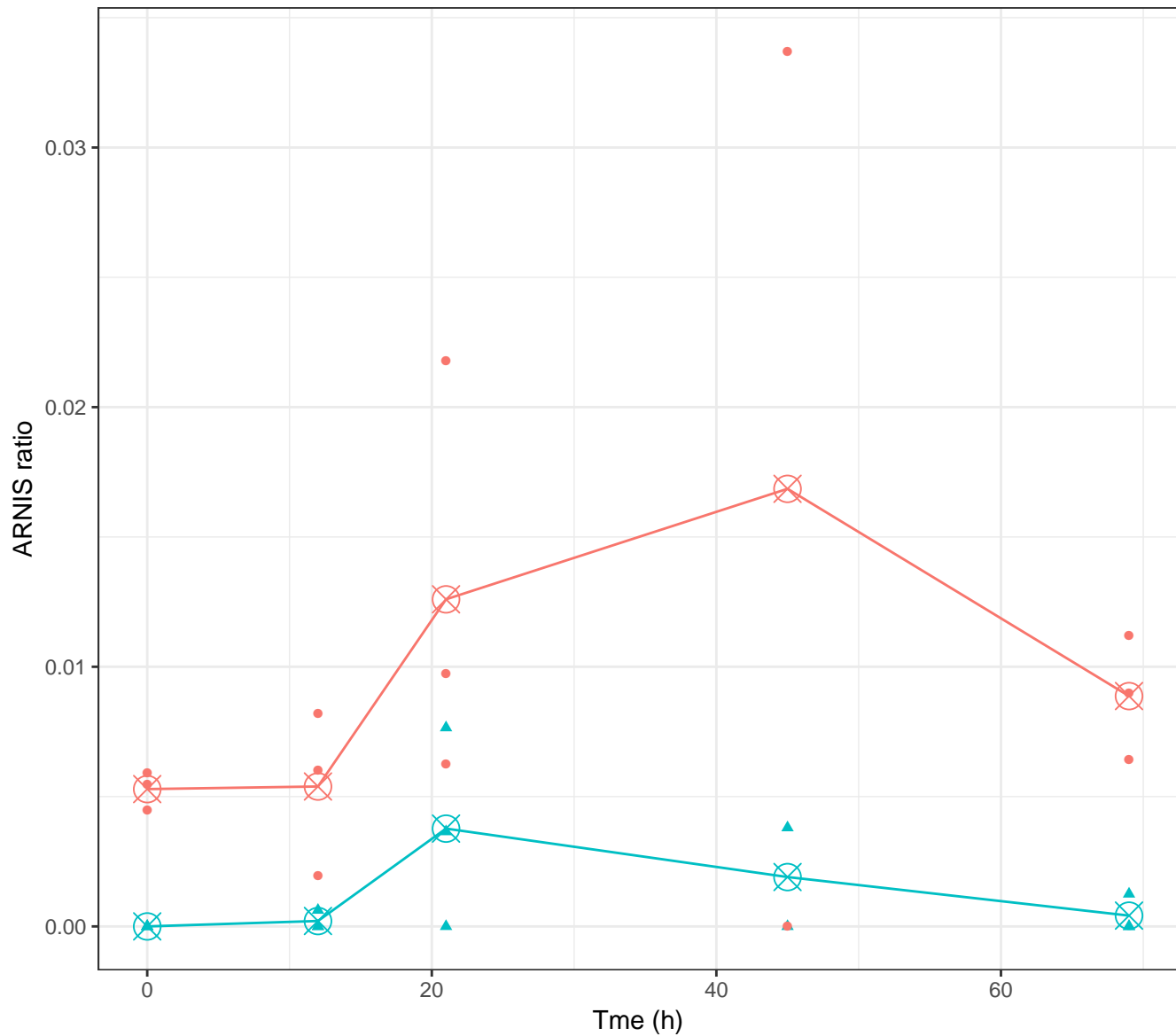
OTU.768_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



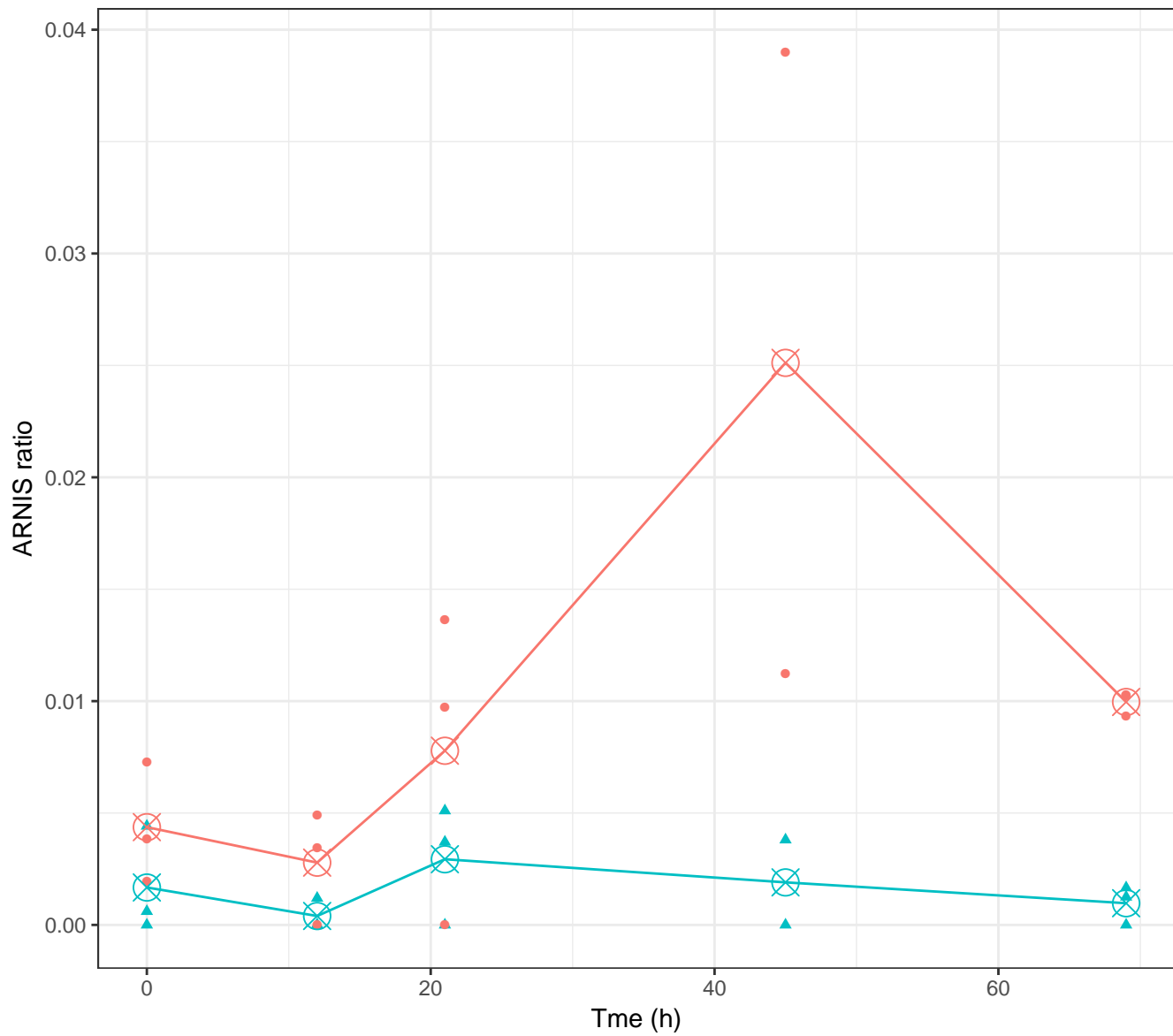
OTU.683_Planctomycetes_Pirellula

Treatment Control Filtered-1micron



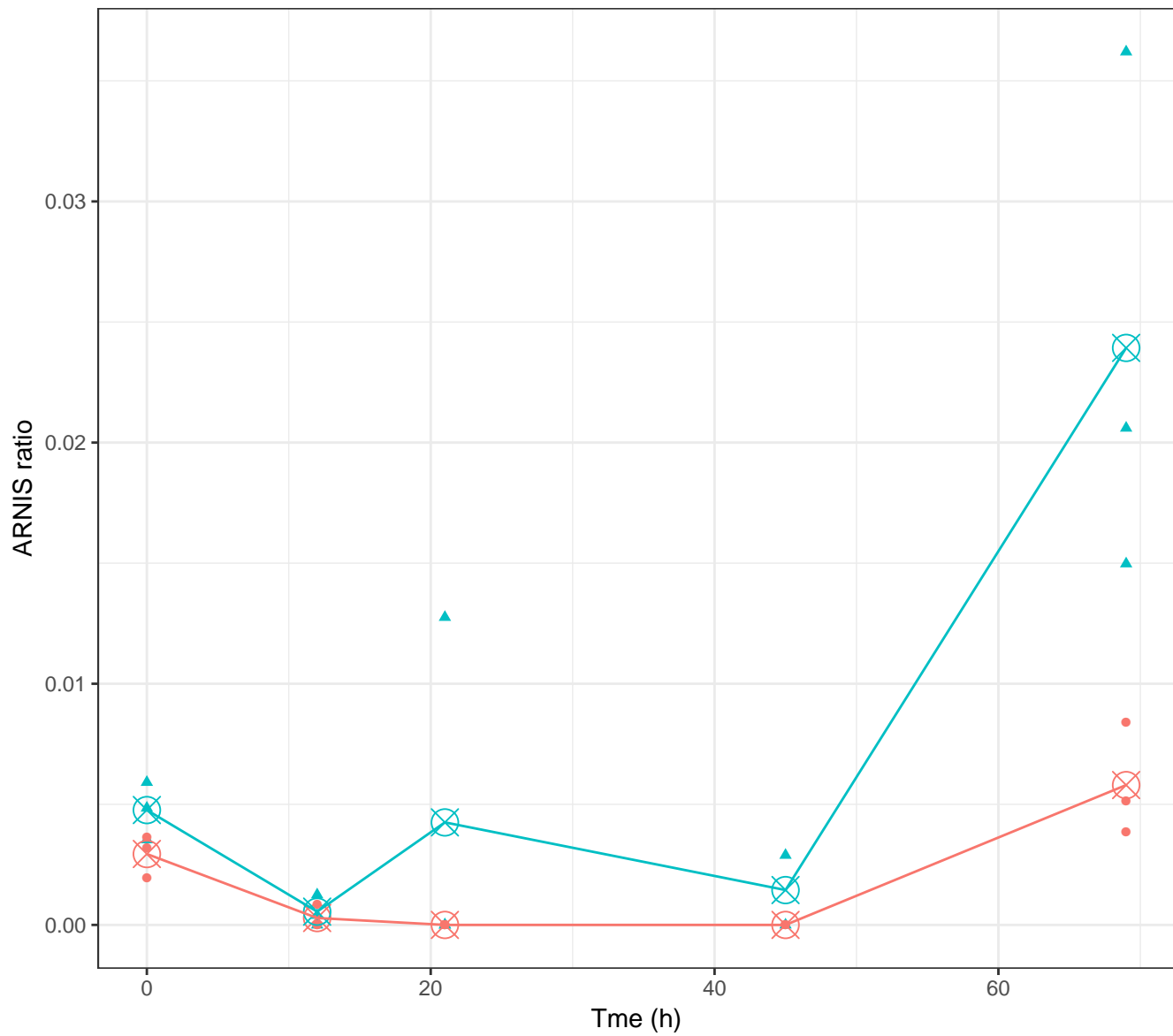
OTU.8365_Bacteroidetes_NS9_marine_group

Treatment Control Filtered-1micron



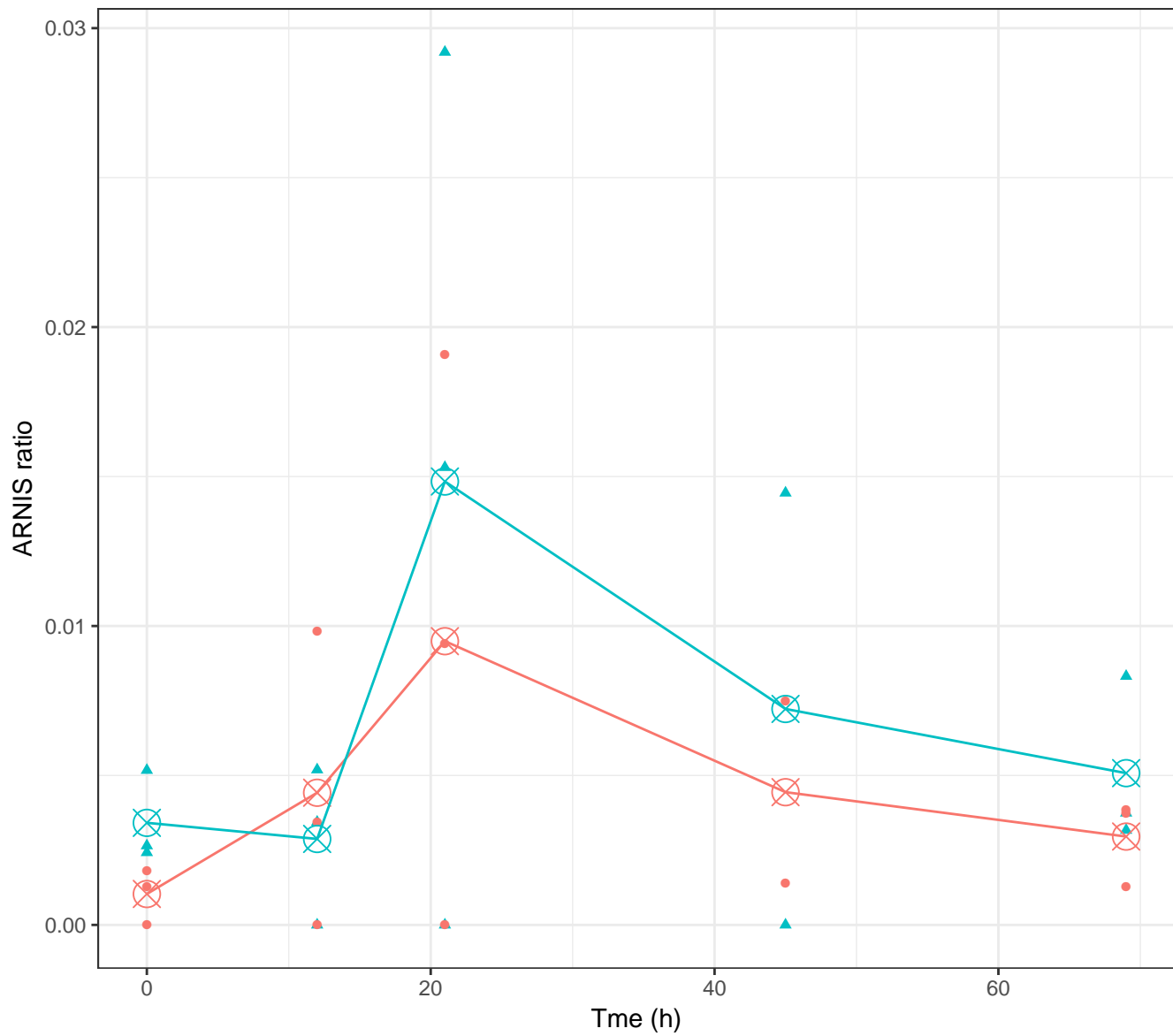
OTU.7900_Actinobacteria_Candidatus_Planktophilia

Treatment Control Filtered-1micron



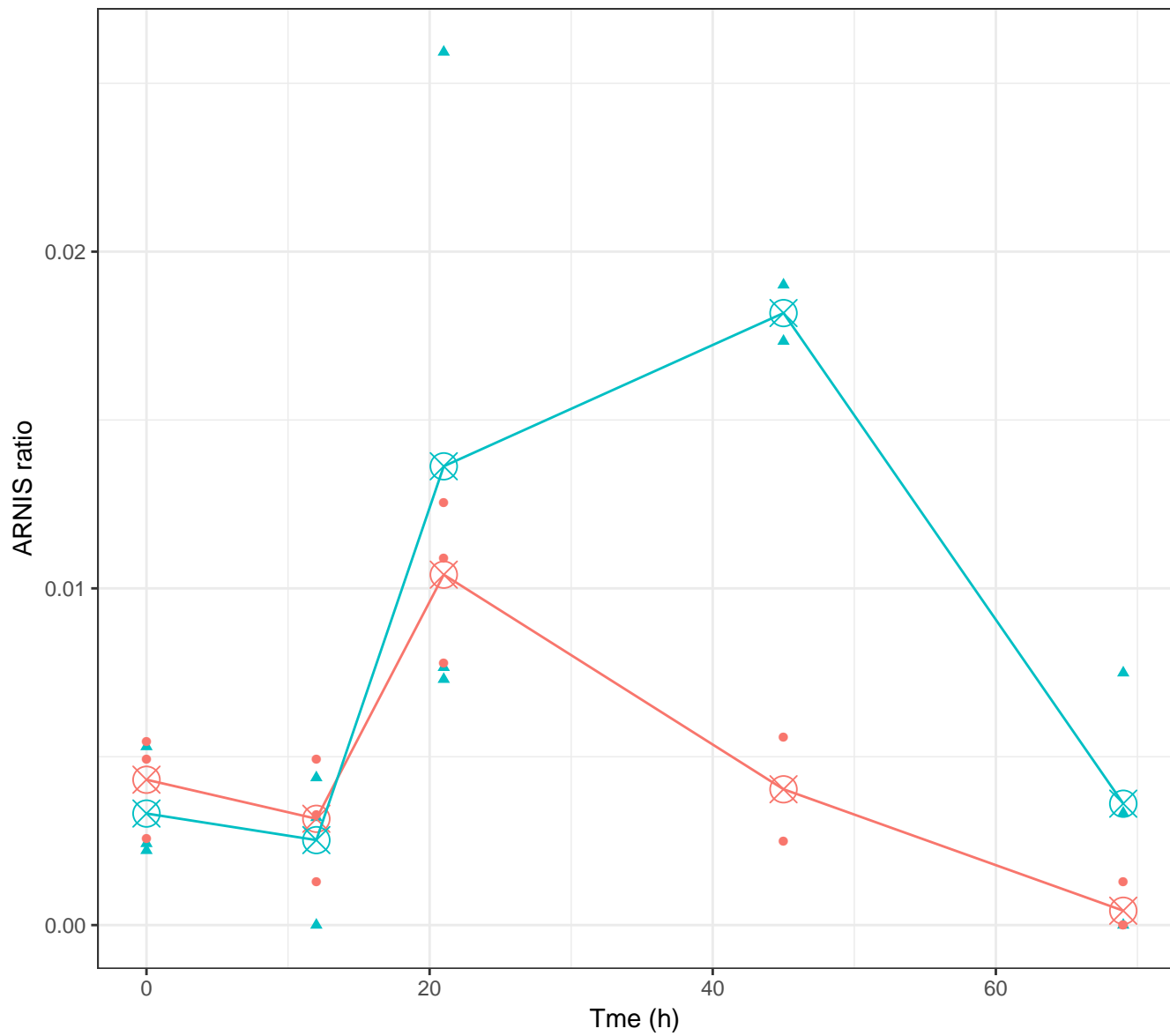
OTU.667_Bacteroidetes_NS11.12marinegroup

Treatment Control Filtered-1micron



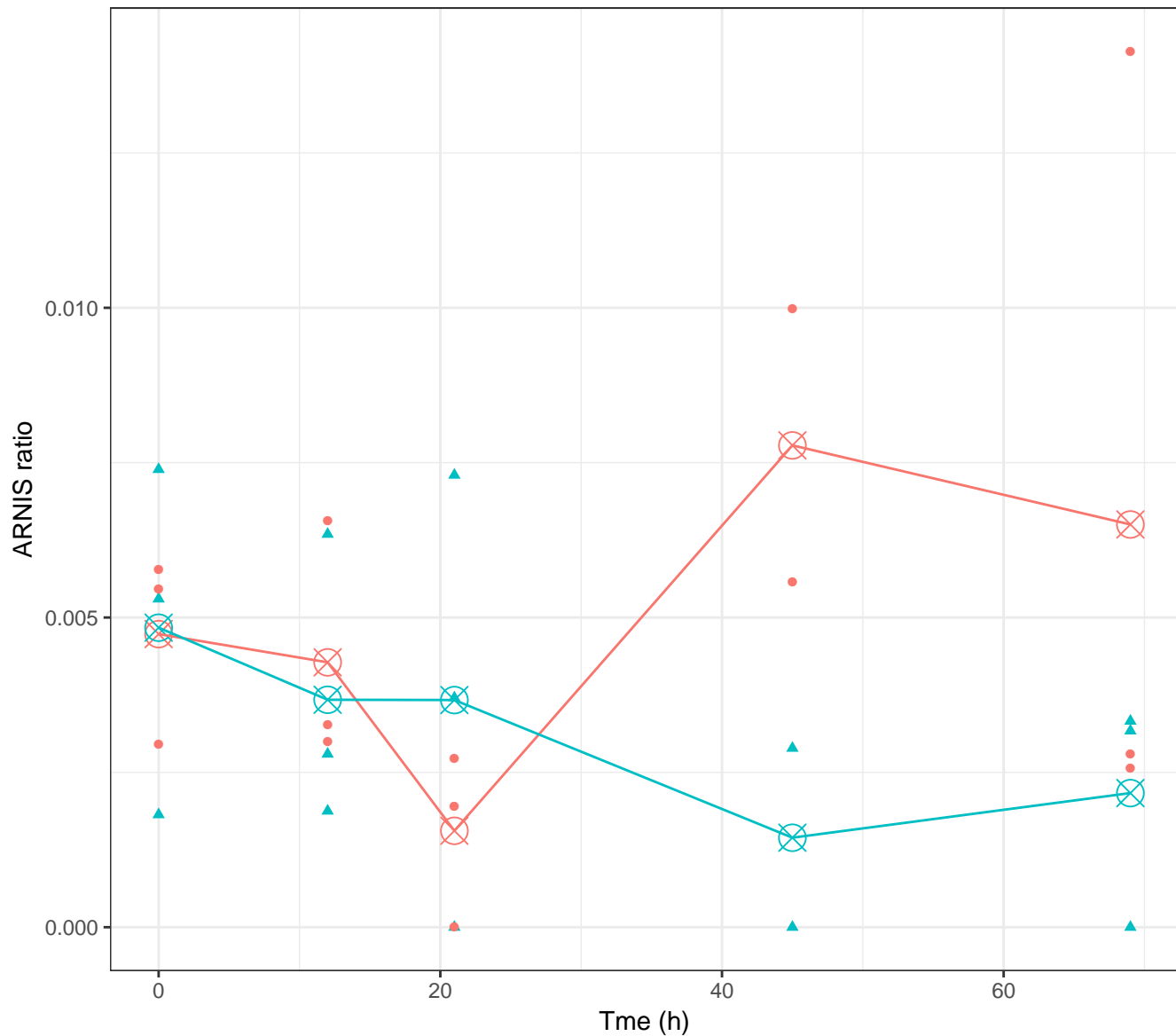
OTU.1673_Actinobacteria_clade_acl.C

Treatment Control Filtered-1micron



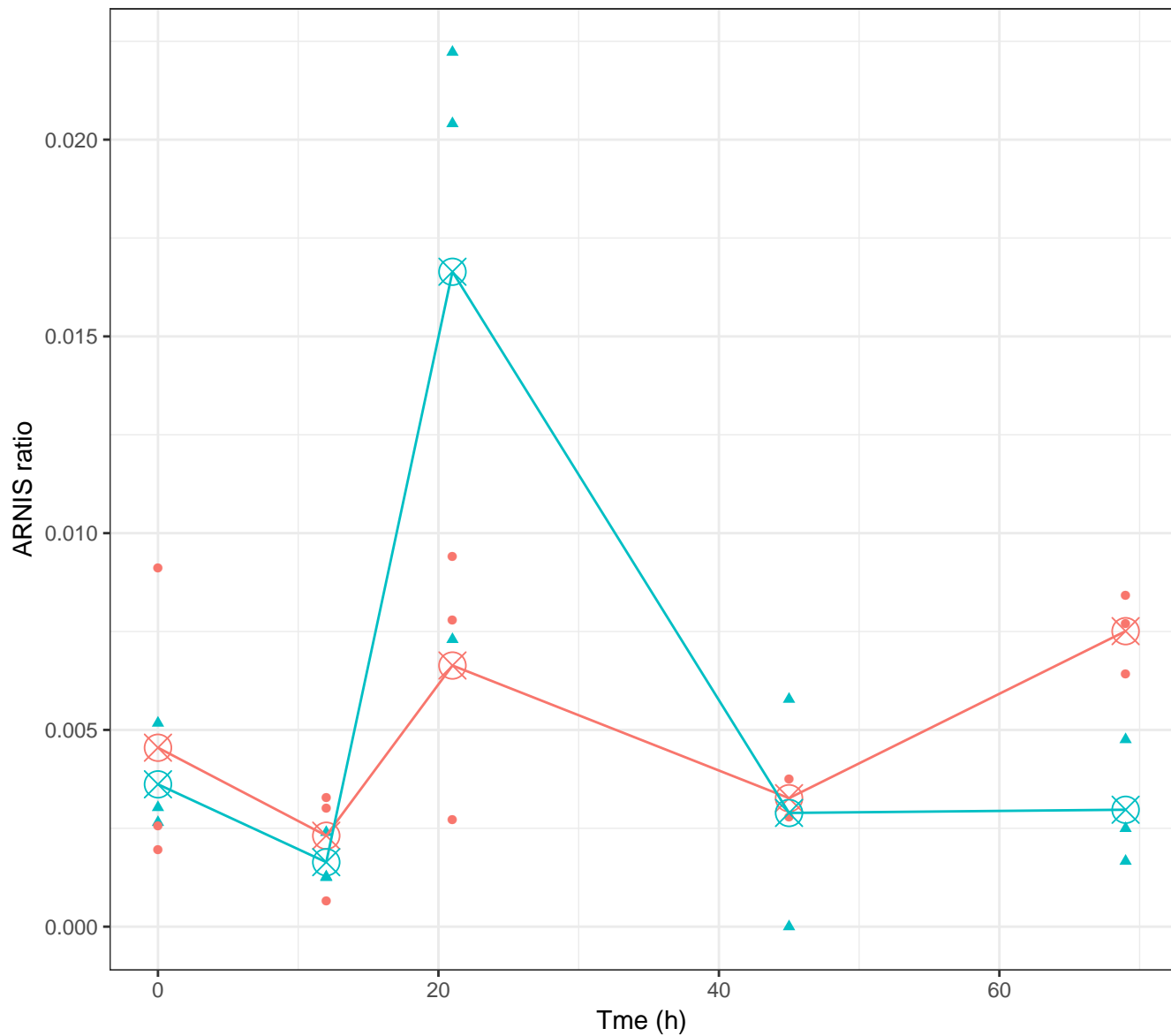
OTU.679_Deltaproteobacteria_Oligoflexales

Treatment ⊗ Control ⊗ Filtered-1micron



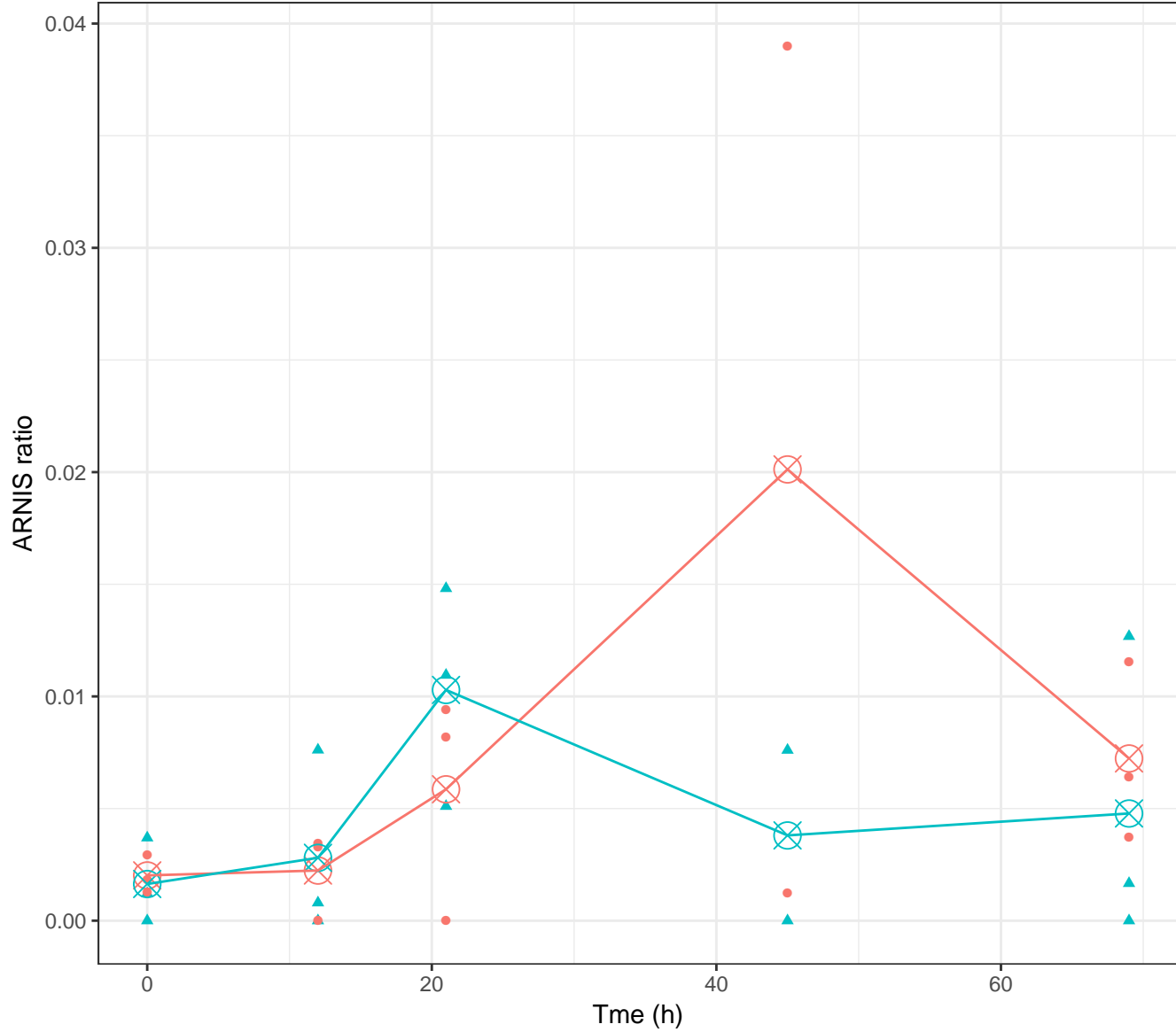
OTU.3432_Actinobacteria_Candidatus_Limnoluna

Treatment ⊗ Control ⊗ Filtered-1micron



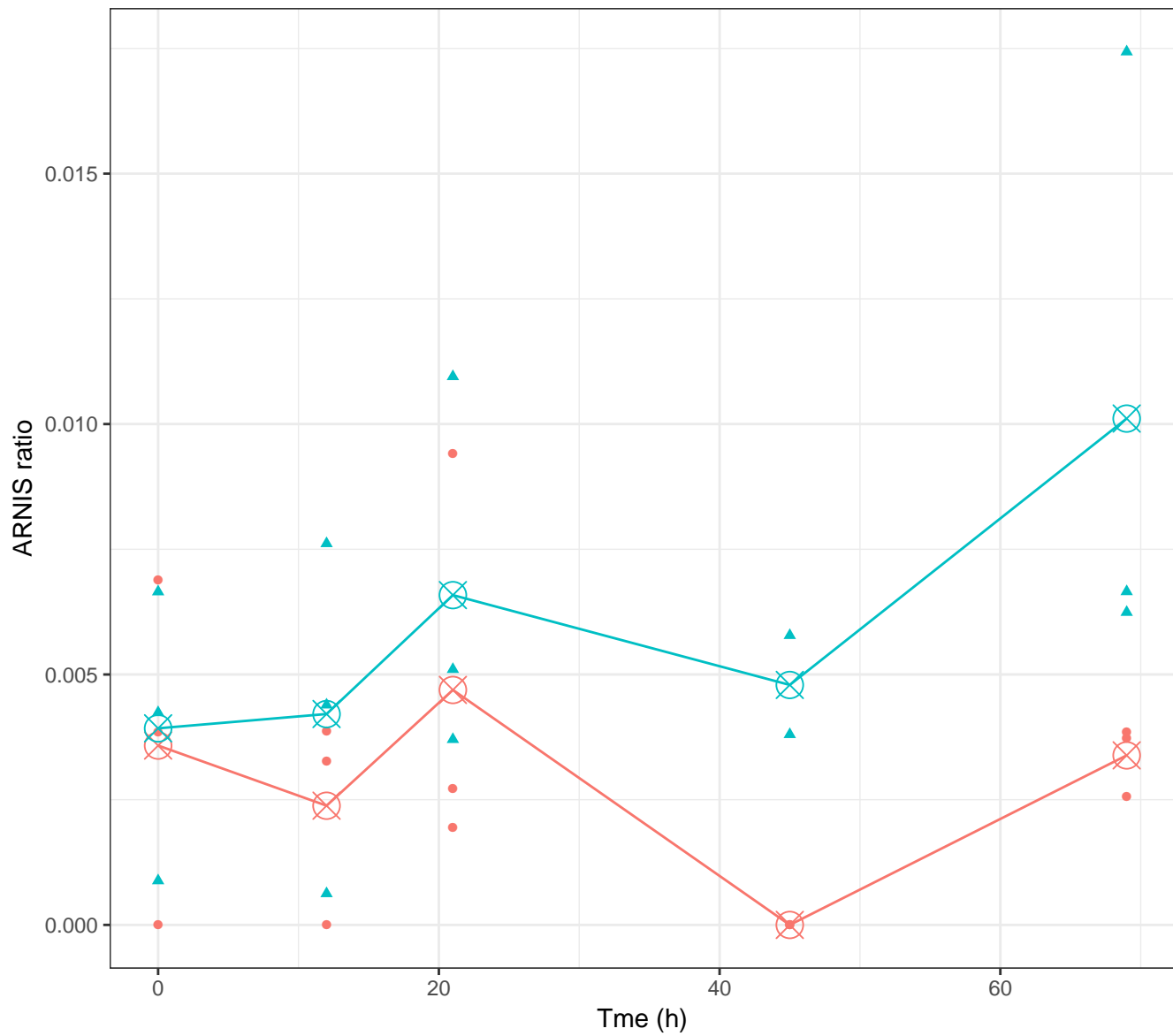
OTU.330_Bacteroidetes_Sphingobacteriales

Treatment Control Filtered-1micron



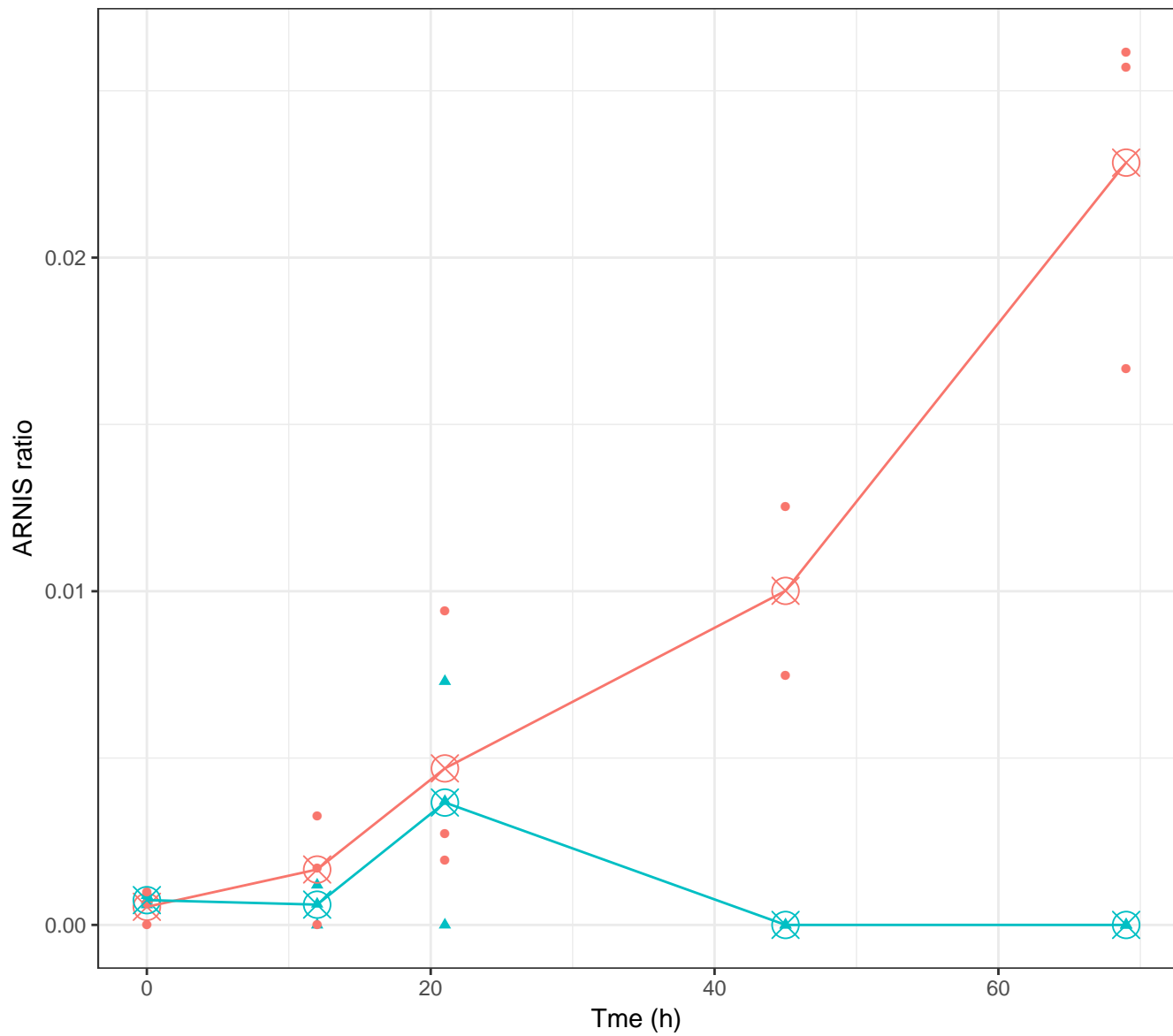
OTU.2898_Betaproteobacteria_Comamonadaceae

Treatment ⊗ Control ⊗ Filtered-1micron



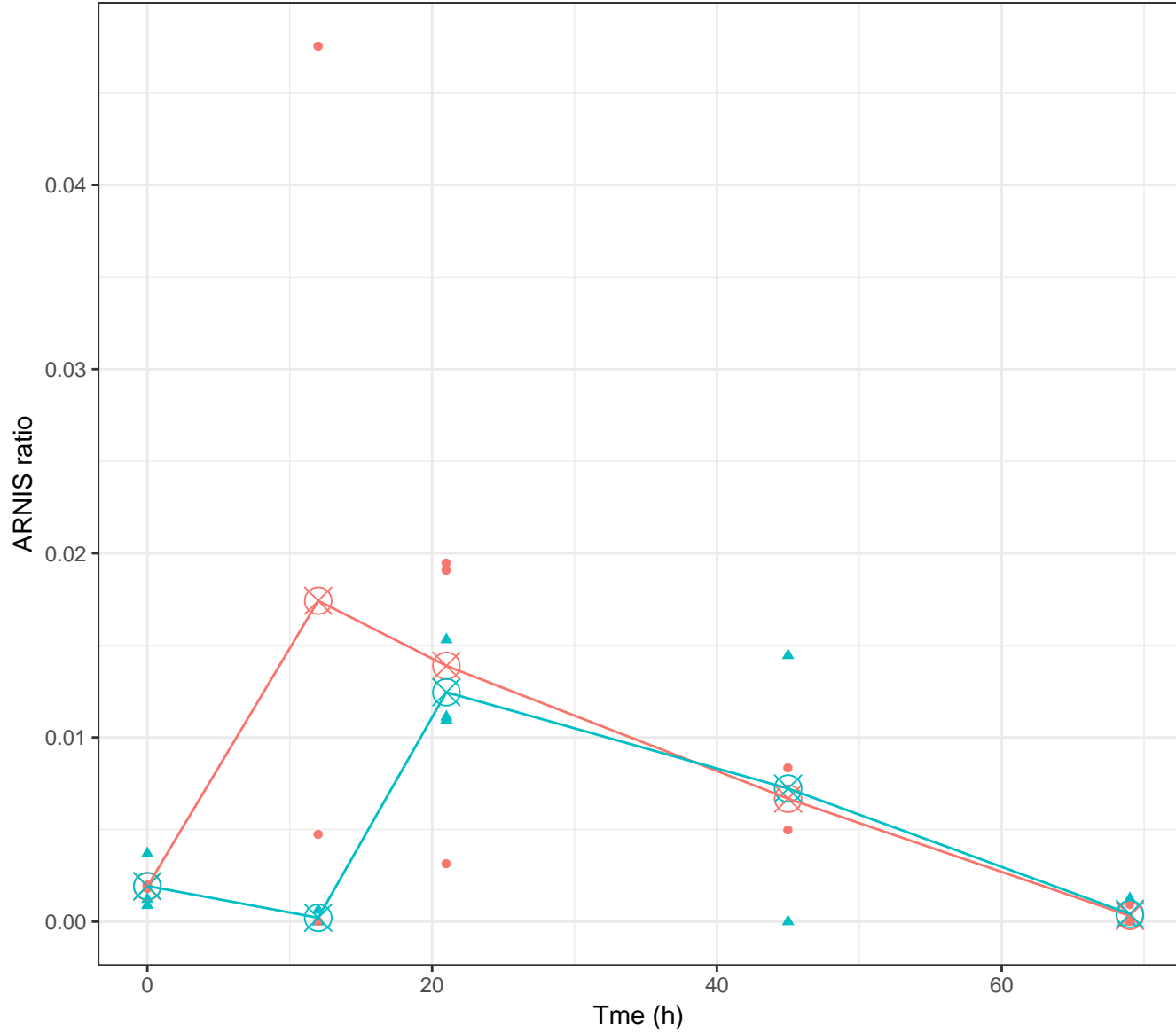
OTU.290_Deltaproteobacteria_Peridibacter

Treatment Control Filtered-1micron



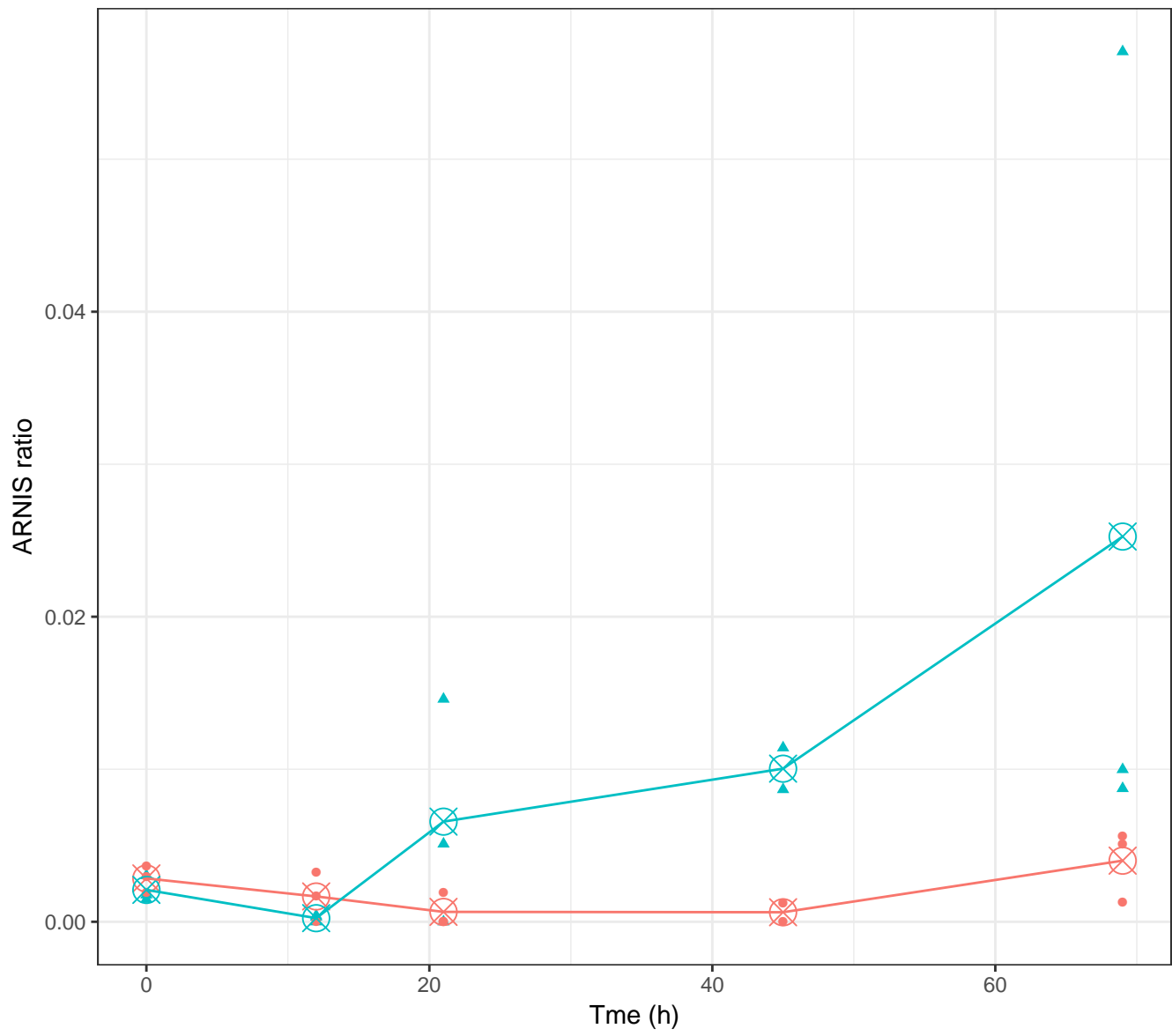
OTU.790_Gammaproteobacteria_Legionella

Treatment Control Filtered-1micron



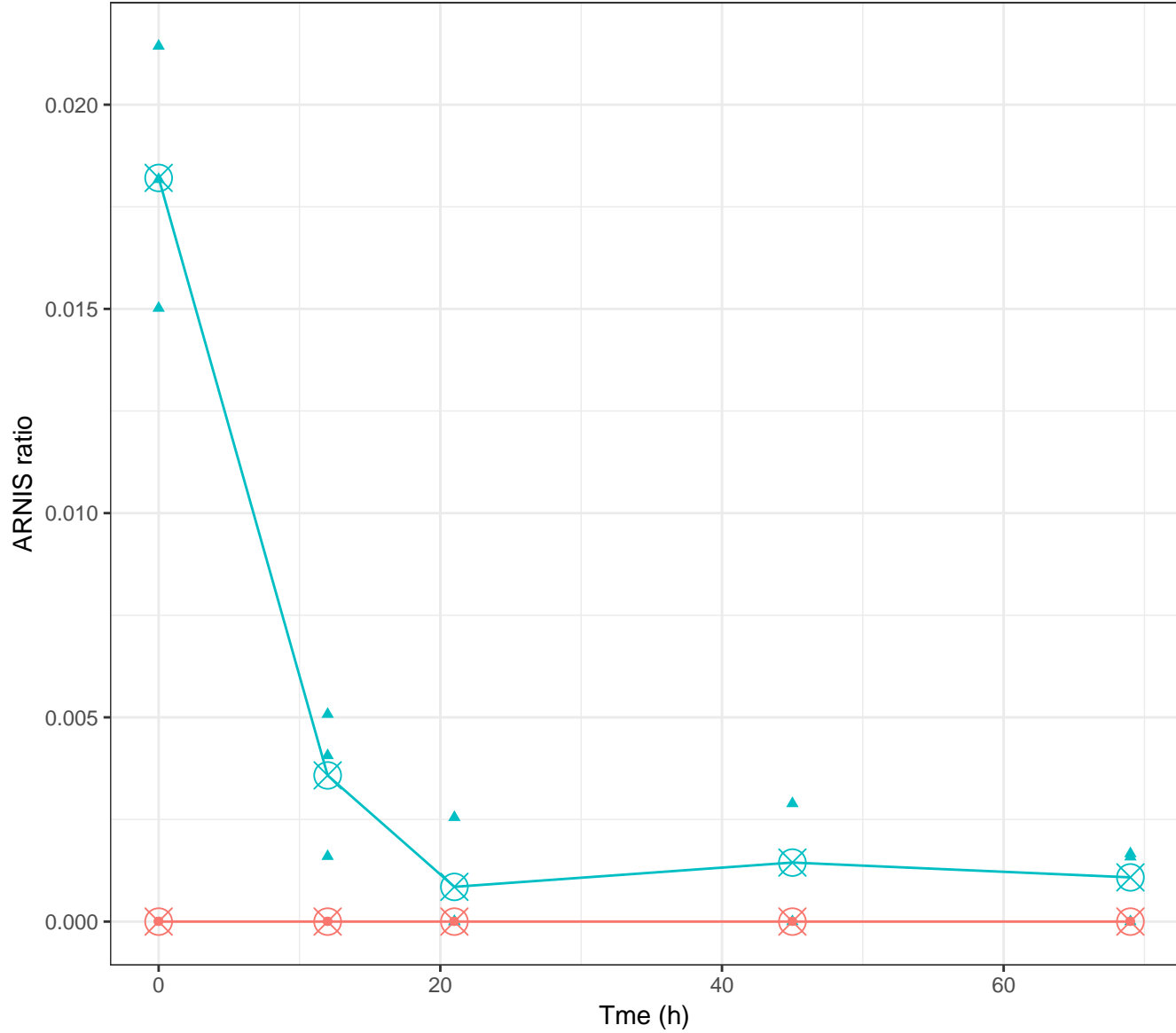
OTU.3058_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron





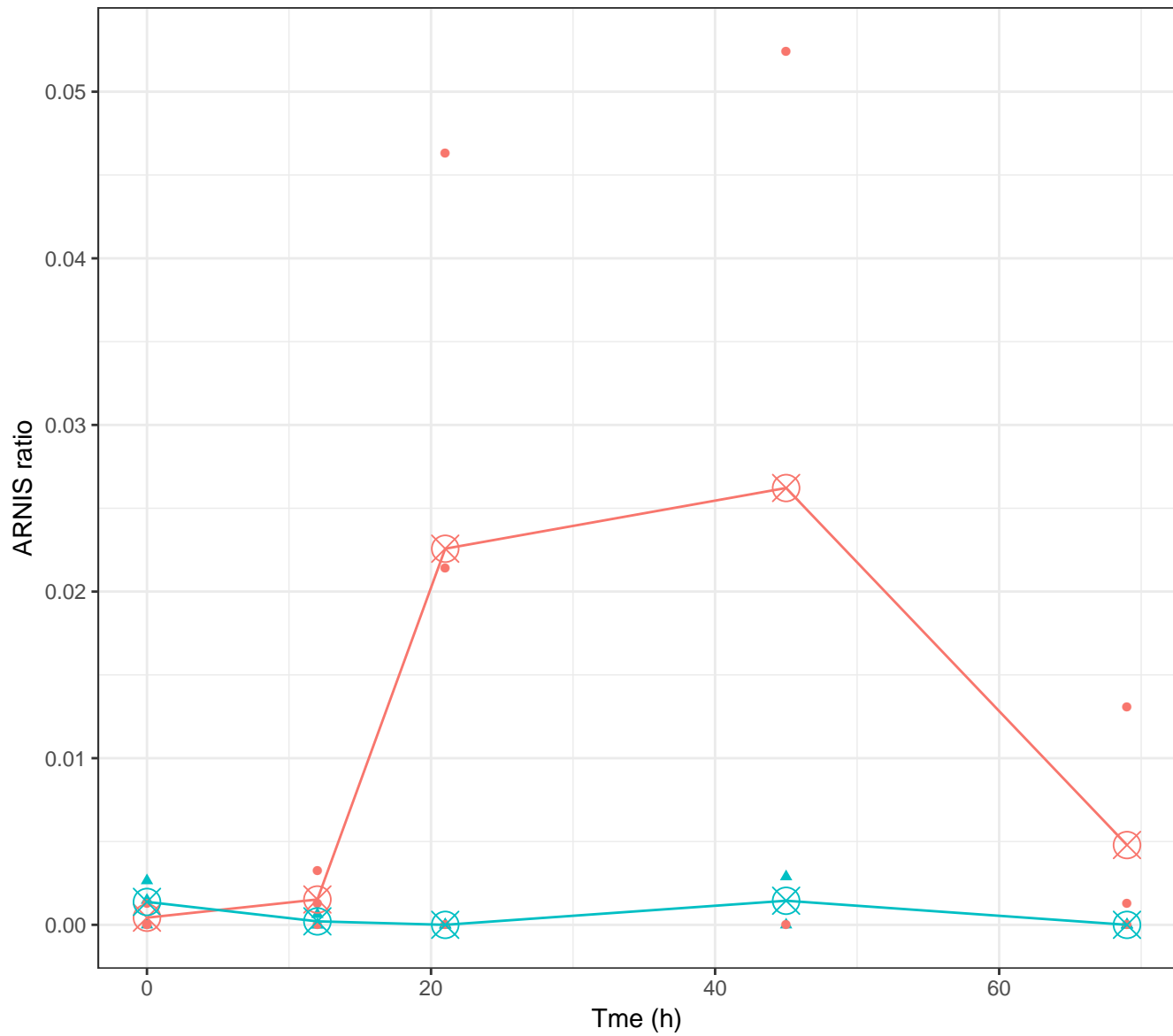
OTU.820_Betaproteobacteria_Duganella

Treatment Control Filtered-1micron



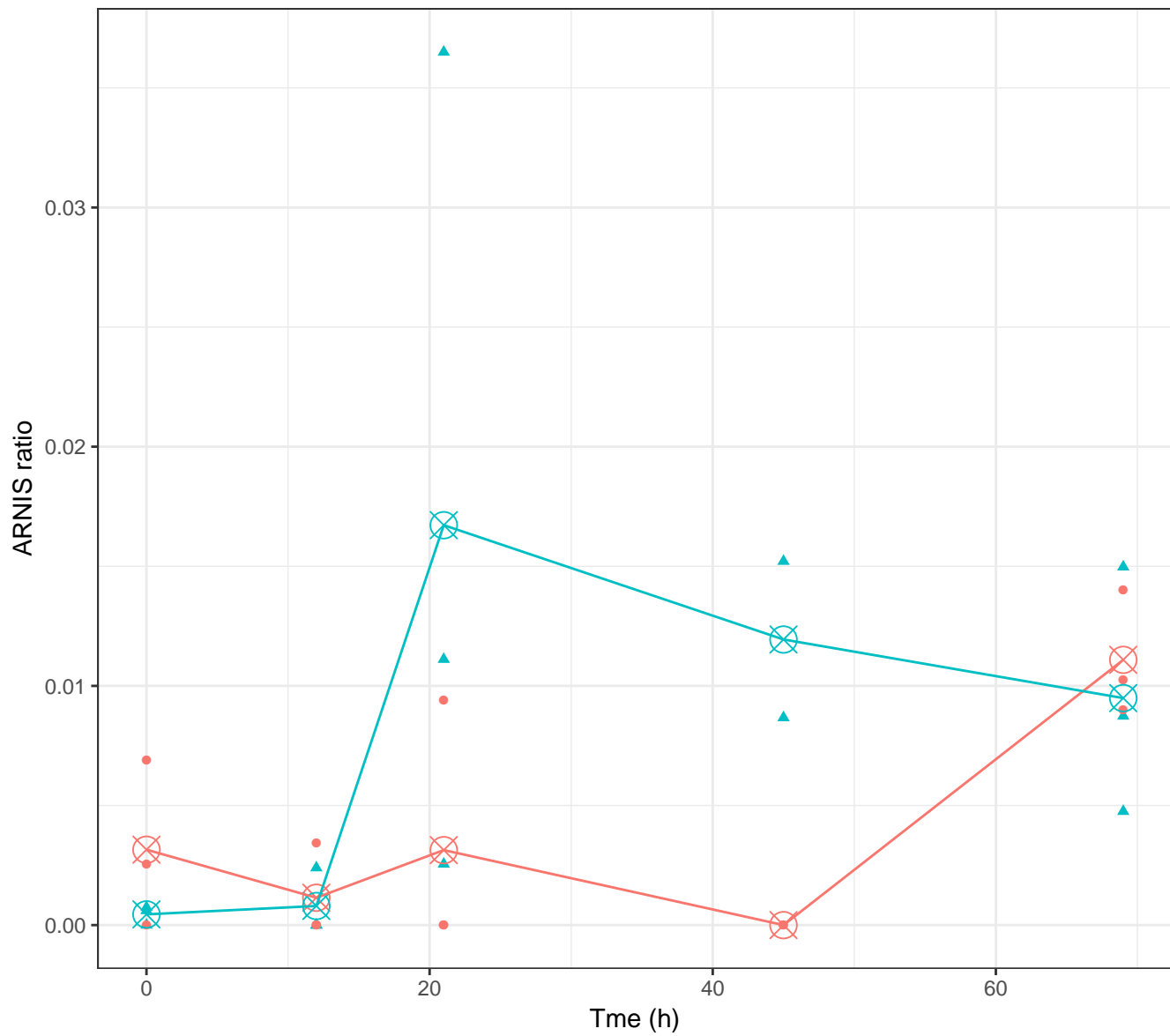
OTU.604_Bacteroidetes_Chryseobacterium

Treatment  Control  Filtered-1micron



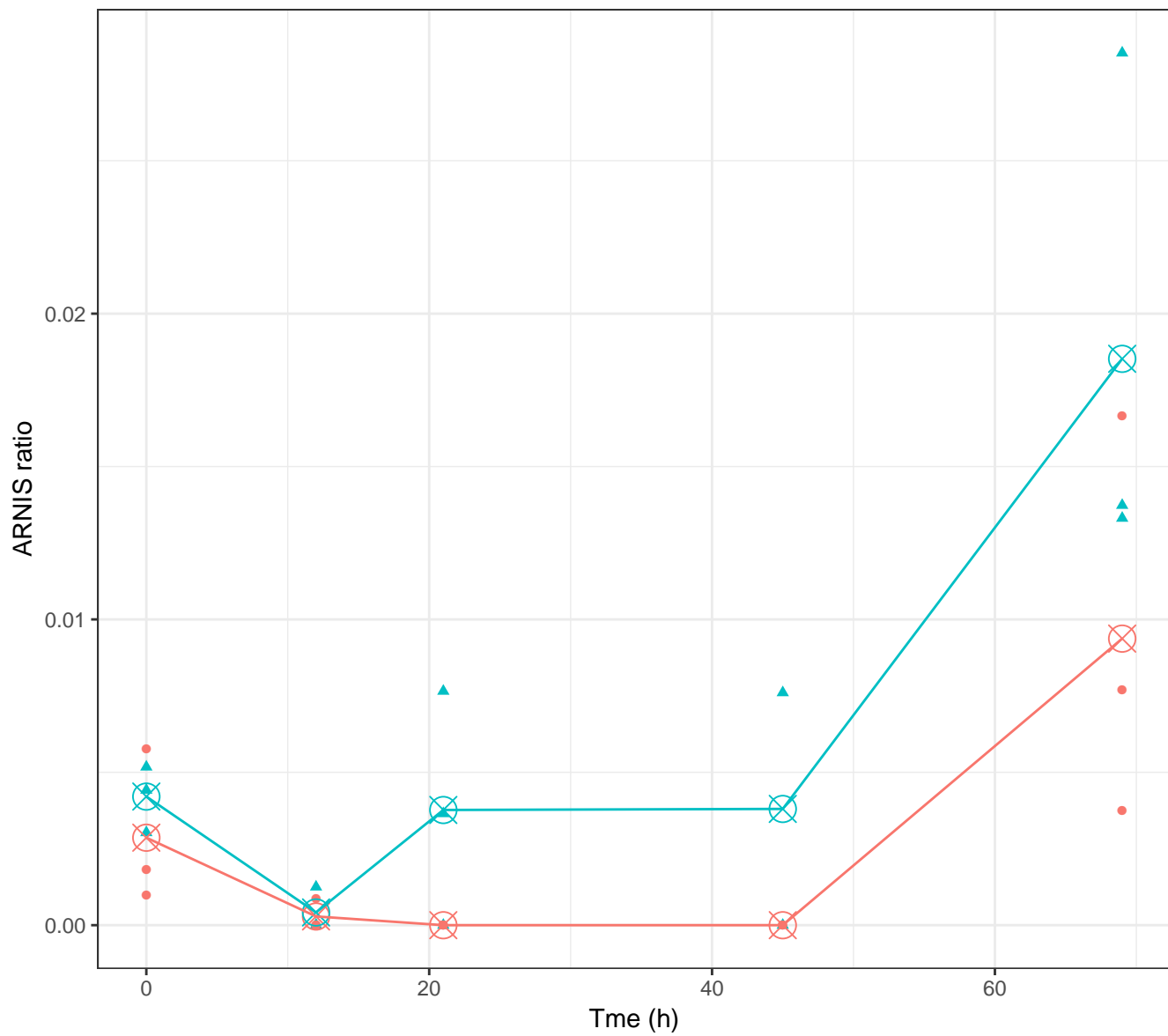
OTU.754_Verrucomicrobia_Luteolibacter

Treatment Control Filtered-1micron



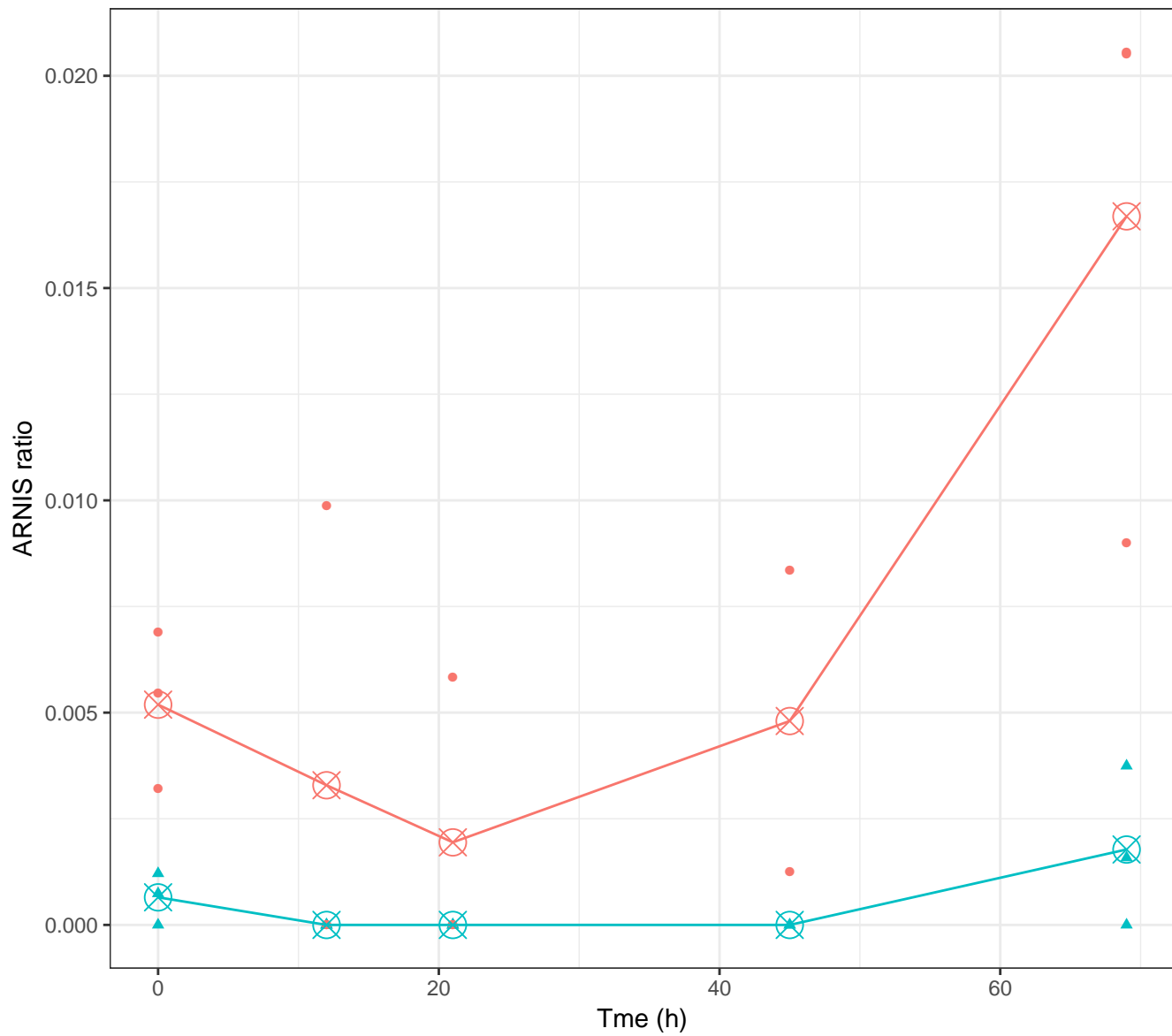


OTU.5380_Actinobacteria.clade_acl.B2.4

Treatment Control Filtered-1micron

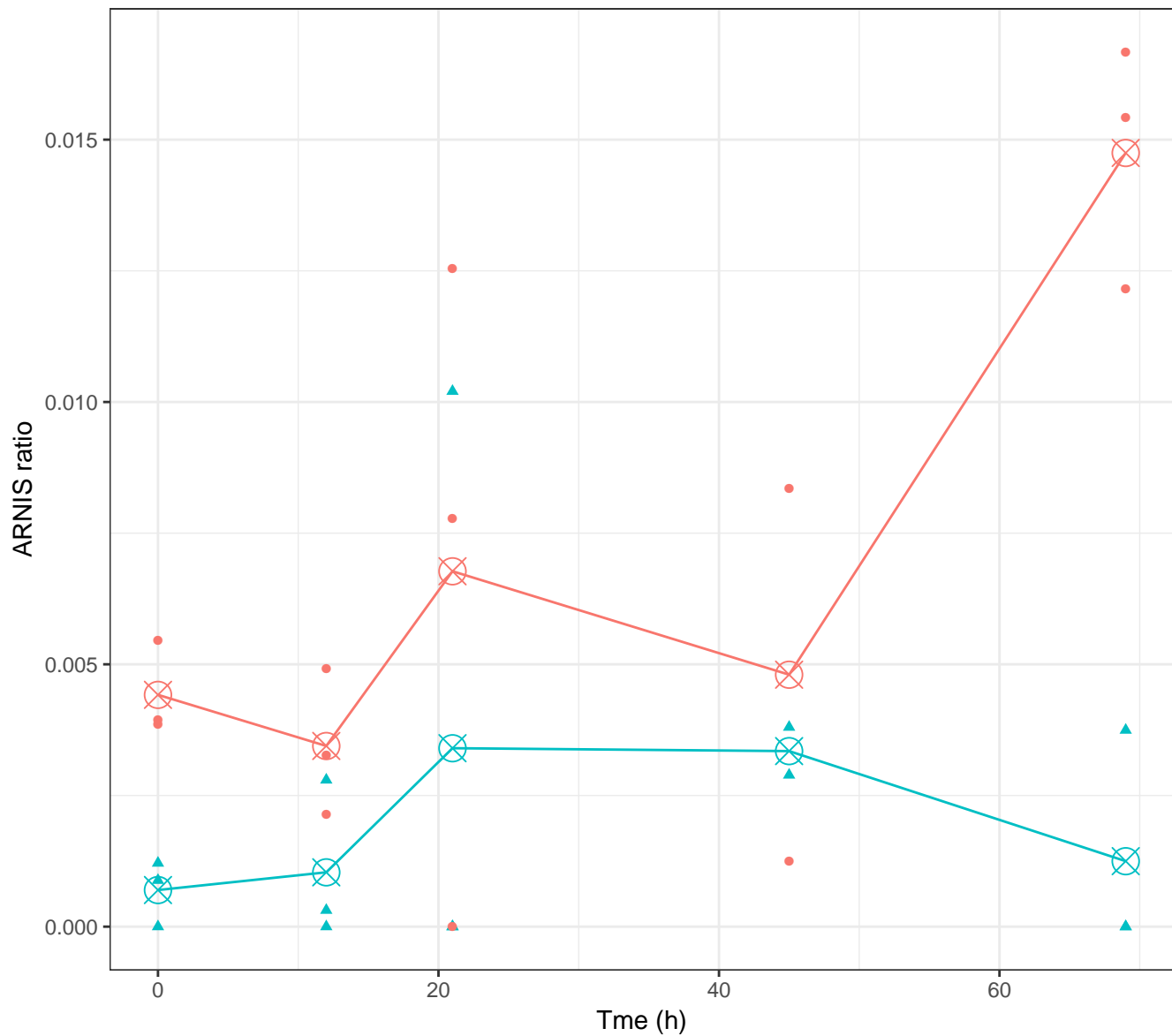


OTU.653_Planctomyces_CL500.3

Treatment  Control  Filtered-1micron

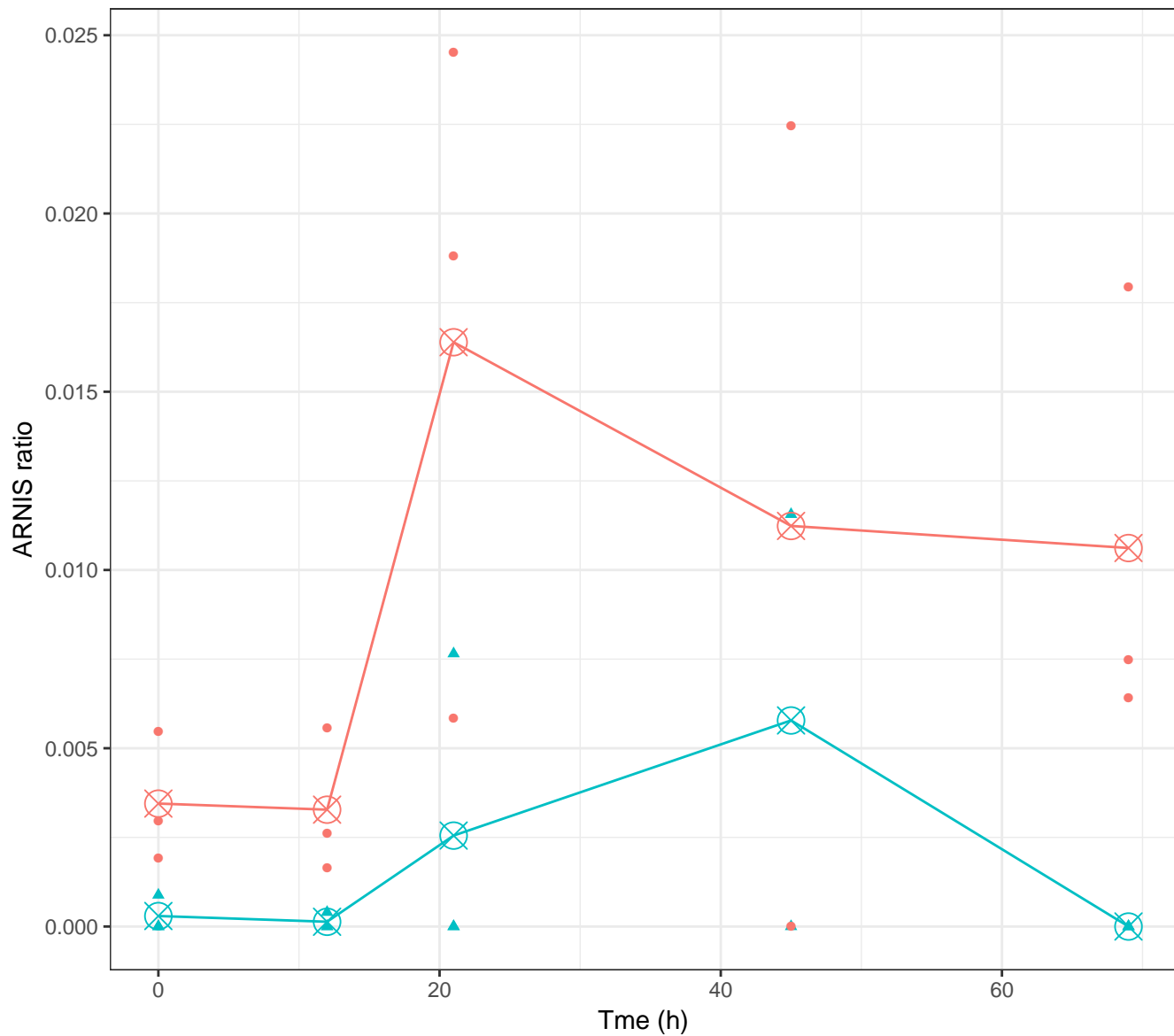
OTU.3286_Verrucomicrobia_Prostheco bacter

Treatment ⊗ Control ⊗ Filtered-1micron





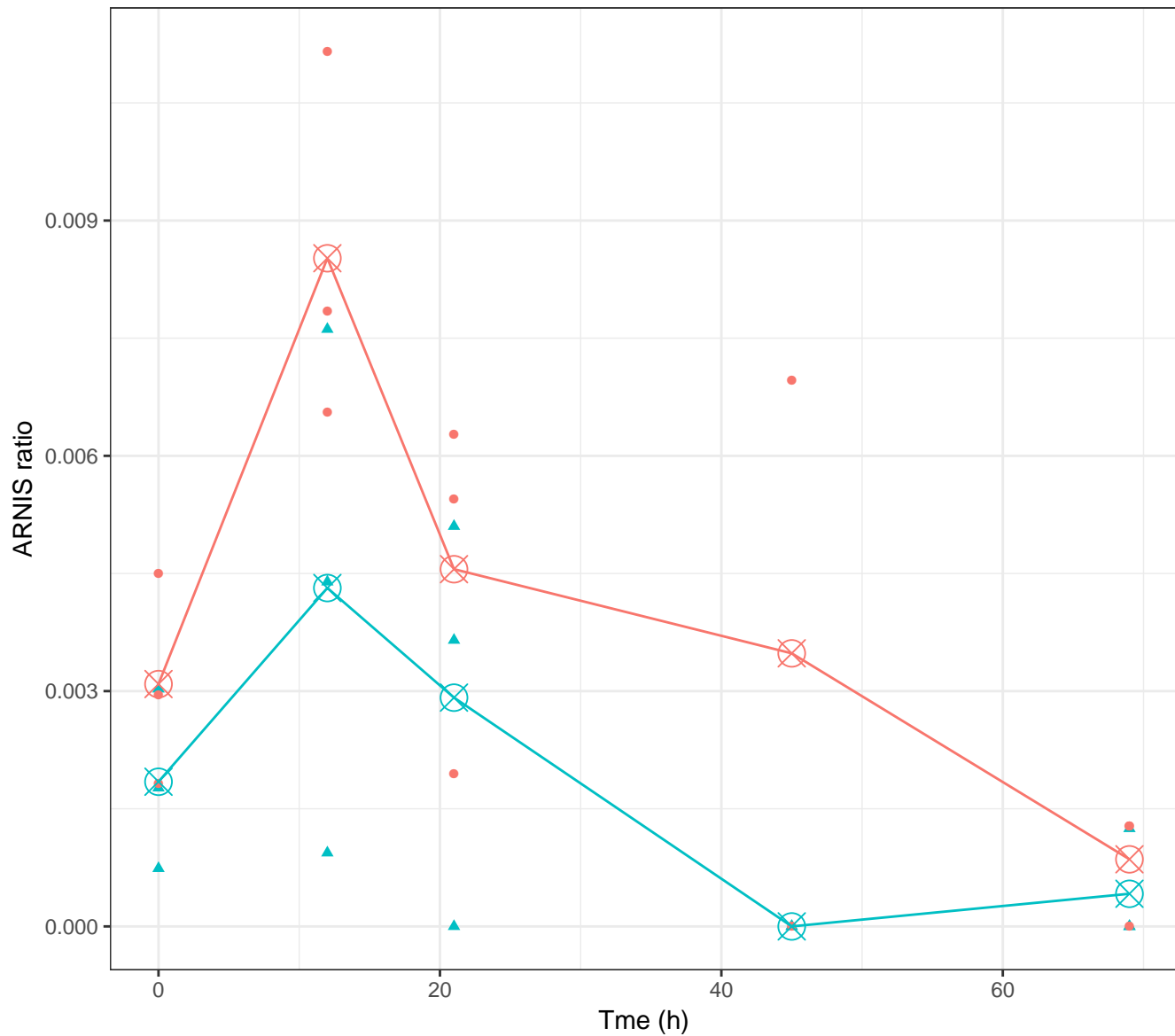
OTU.726_Bacteroidetes_Sphingobacteriaceae

Treatment Control Filtered-1micron





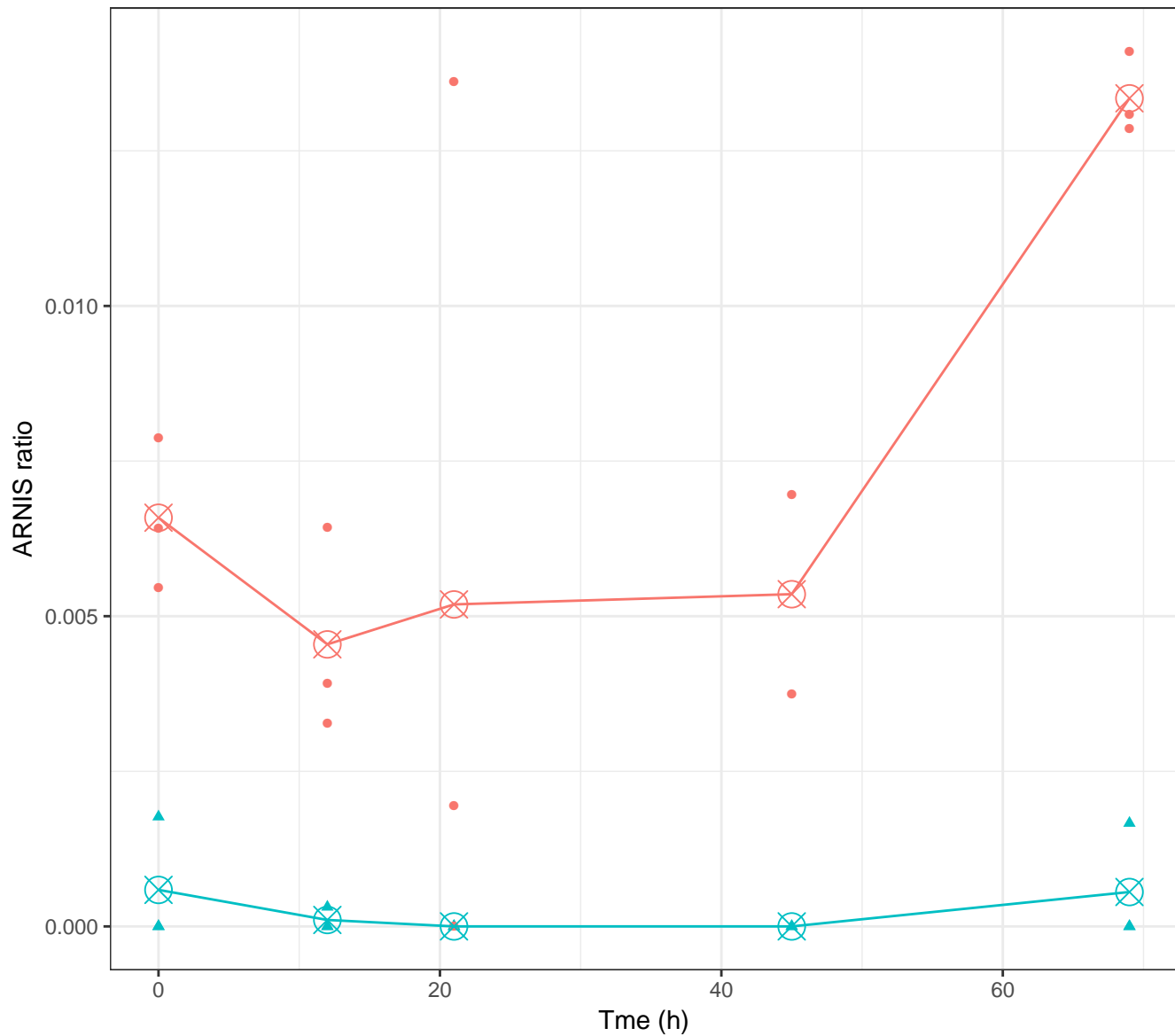
OTU.98_Actinobacteria_Mycobacterium

Treatment  Control  Filtered-1micron



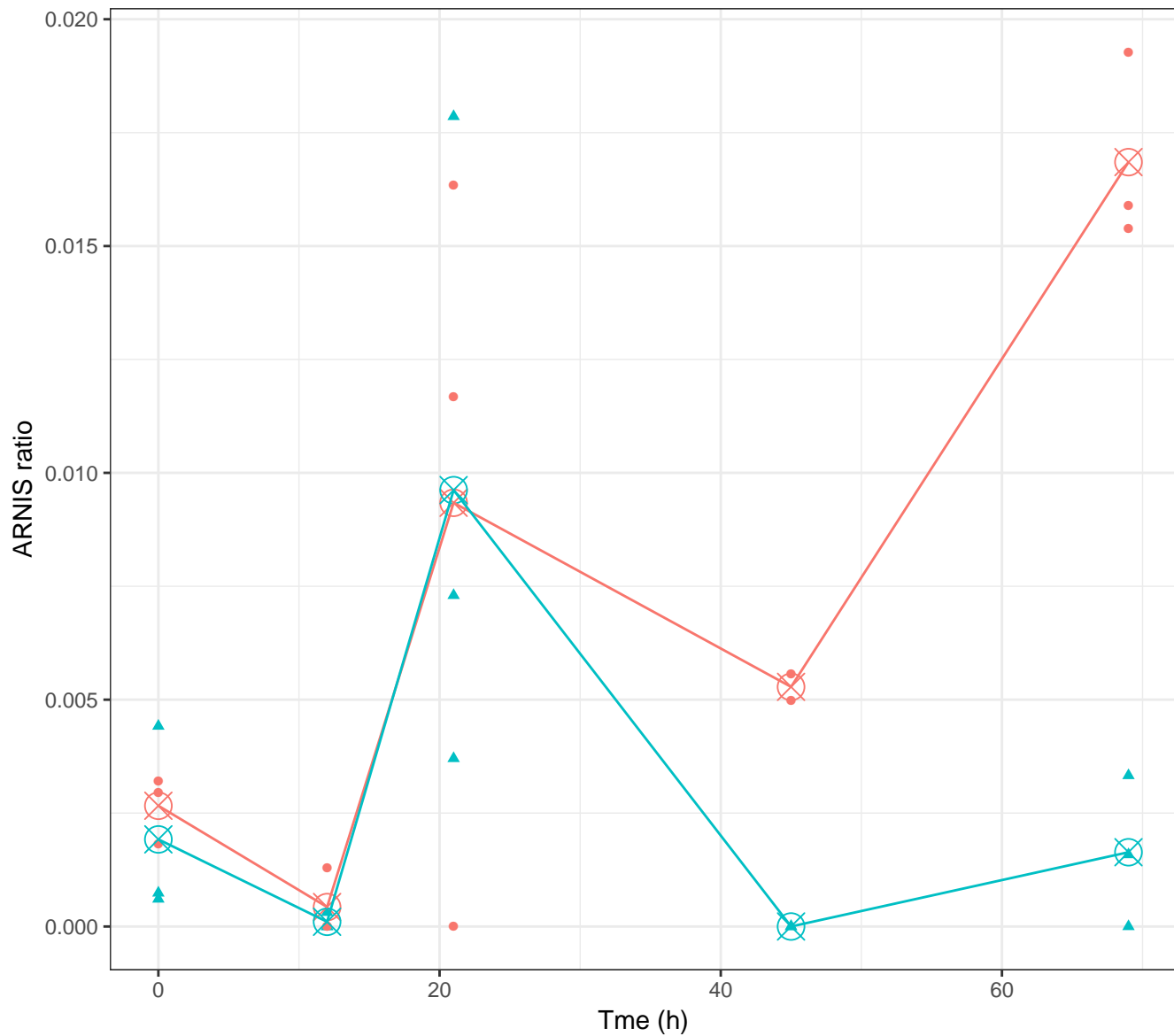
OTU.848_Bacteroidetes_Cytophagaceae

Treatment  Control  Filtered-1micron



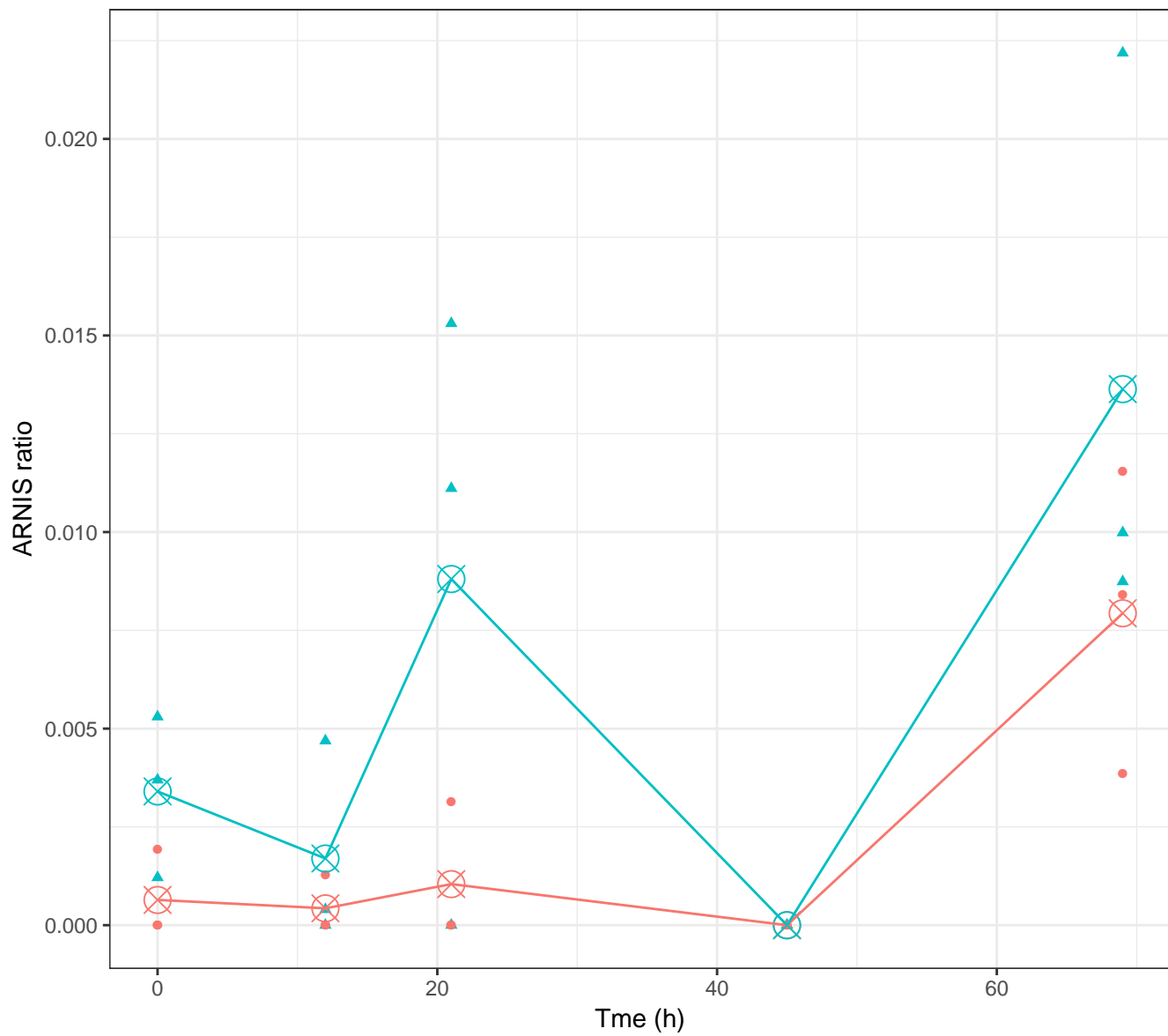


OTU.739_Deltaproteobacteria_Peridibacter

Treatment Control Filtered-1micron

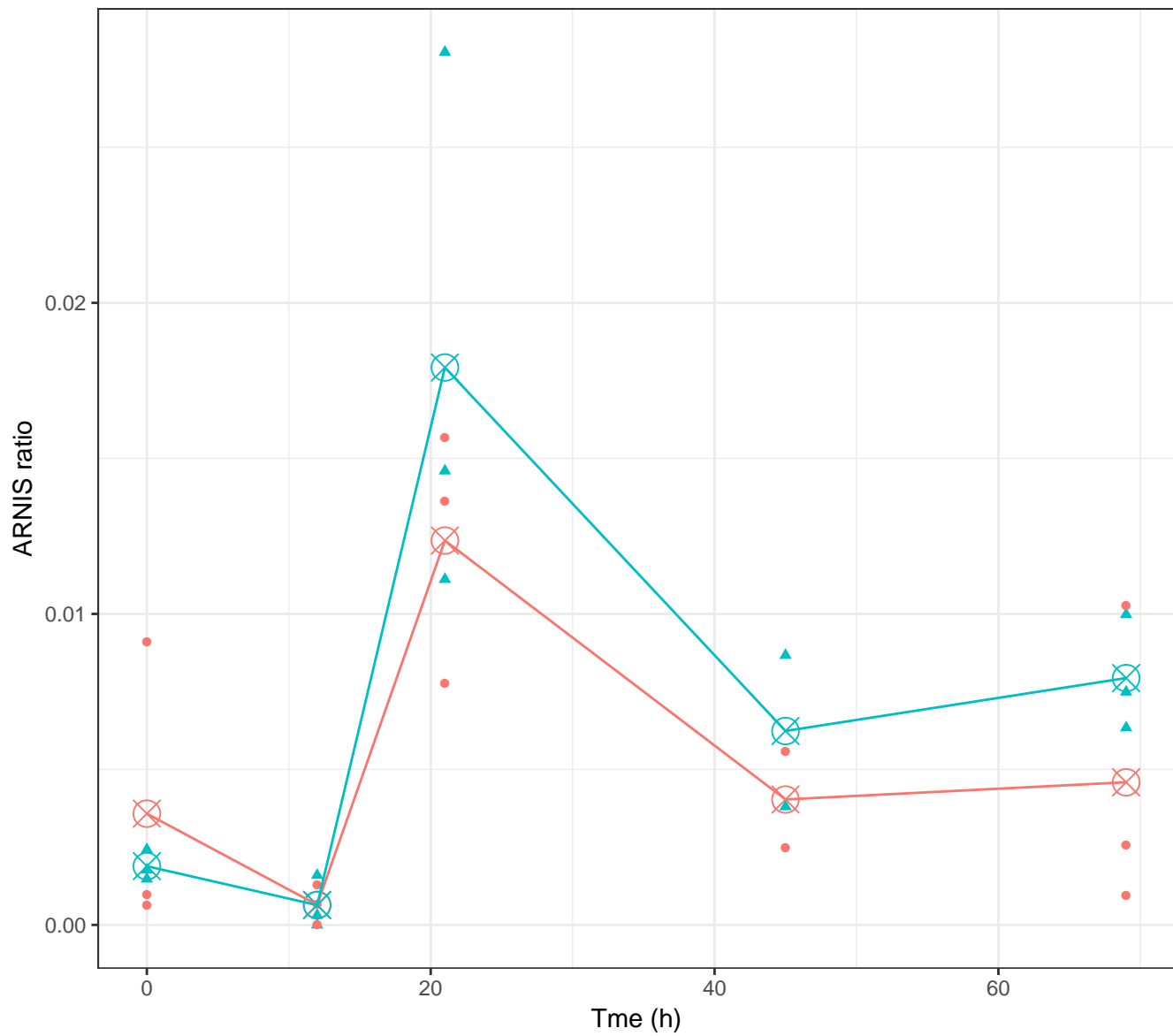


OTU.539_Actinobacteria.clade_acl.B2.4

Treatment  Control  Filtered-1micron

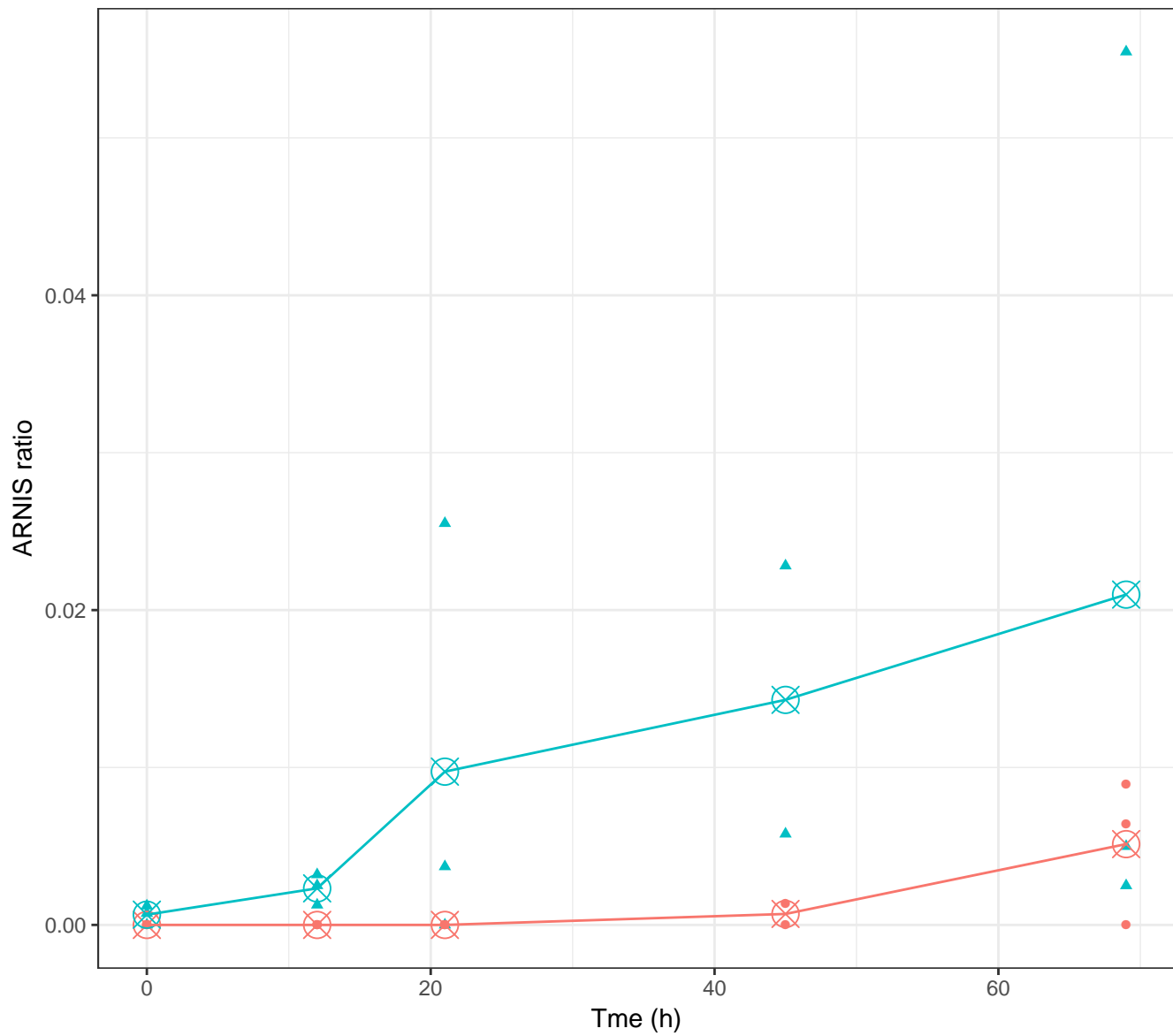
OTU.730_Bacteroidetes_Chitinophagaceae

Treatment ⊗ Control ⊗ Filtered-1micron



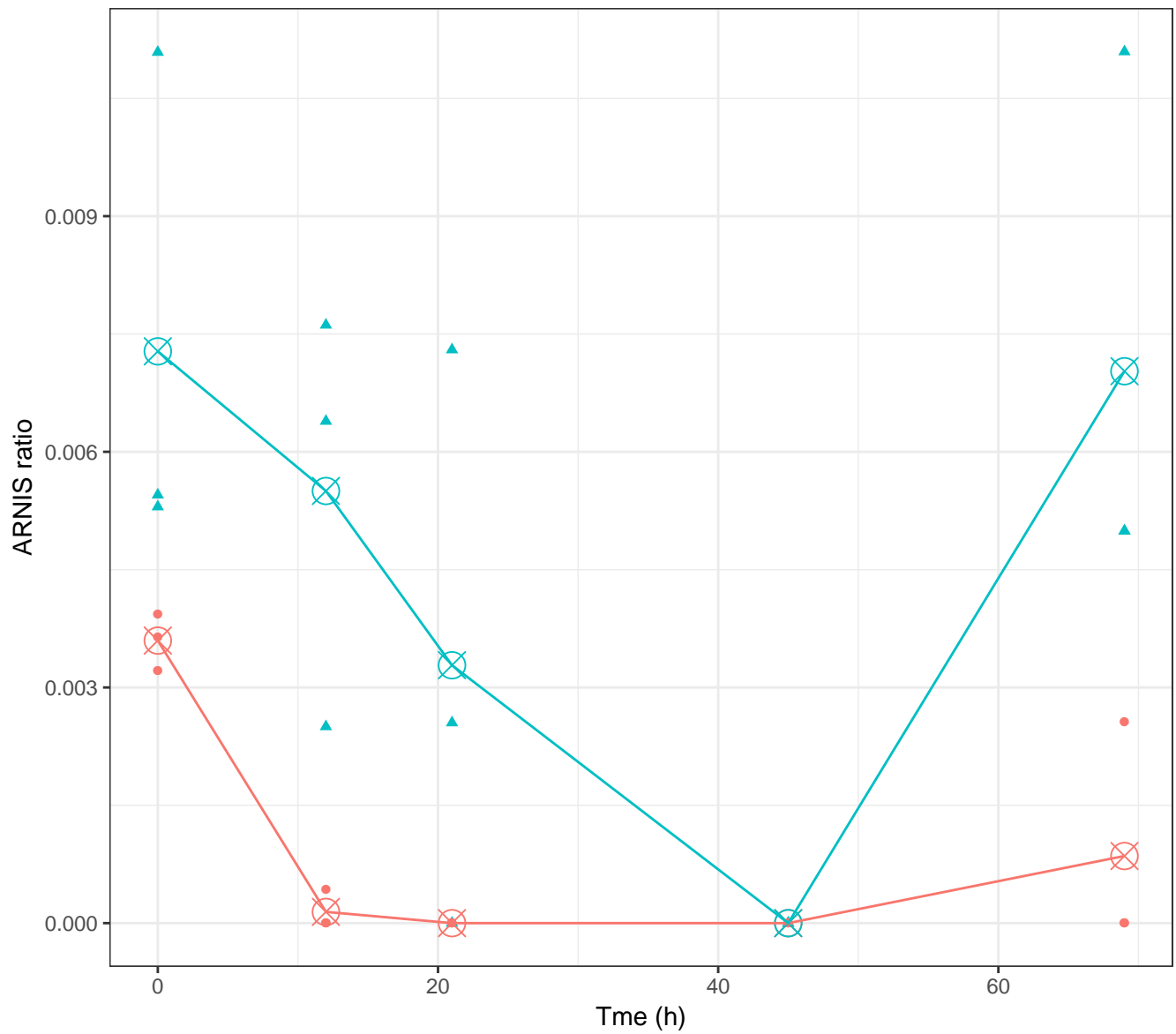
OTU.816_Gammaproteobacteria_Rheinheimera

Treatment Control Filtered-1micron





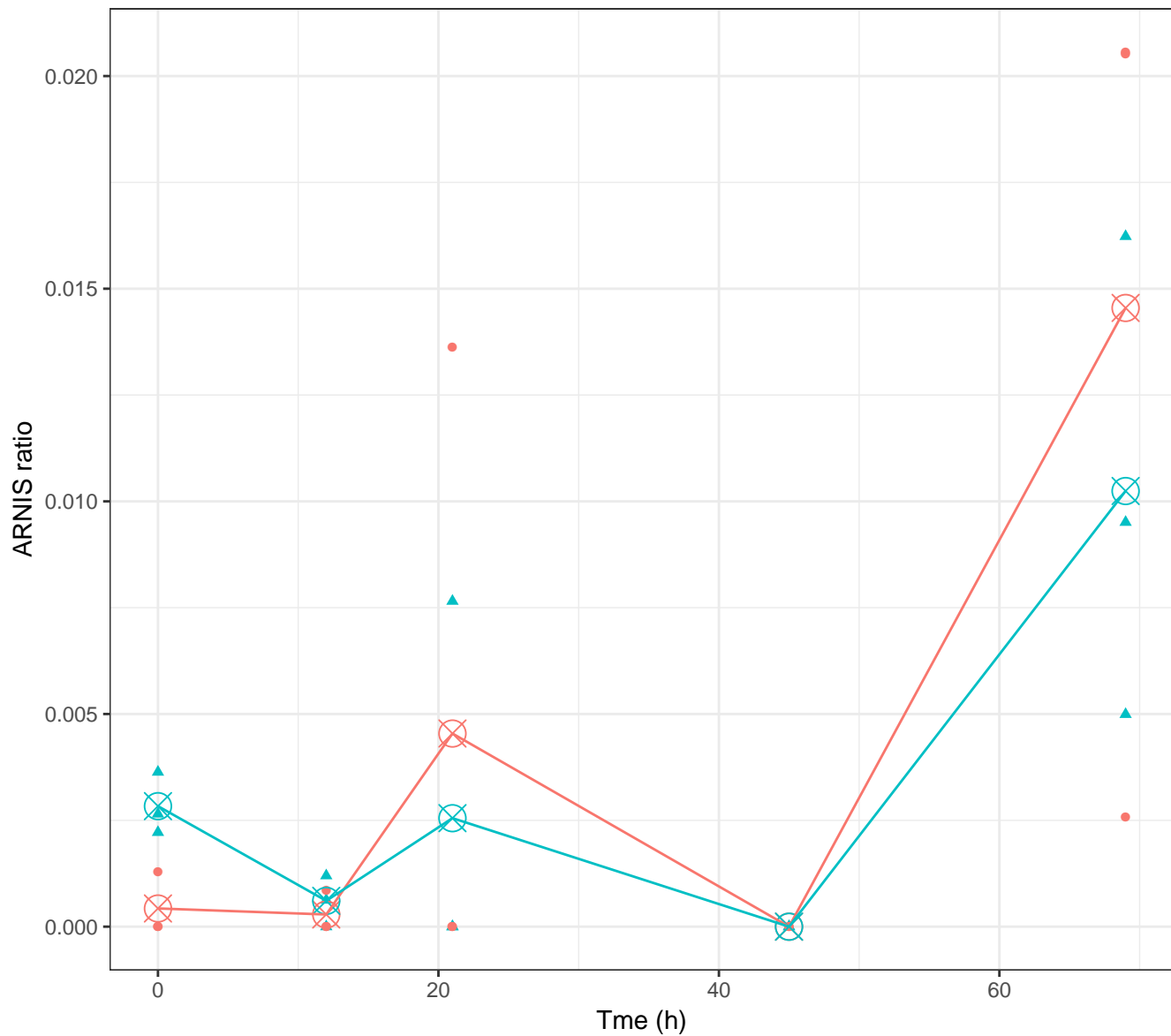
OTU.5185_Verrucomicrobia_Opitutae

Treatment Control Filtered-1micron



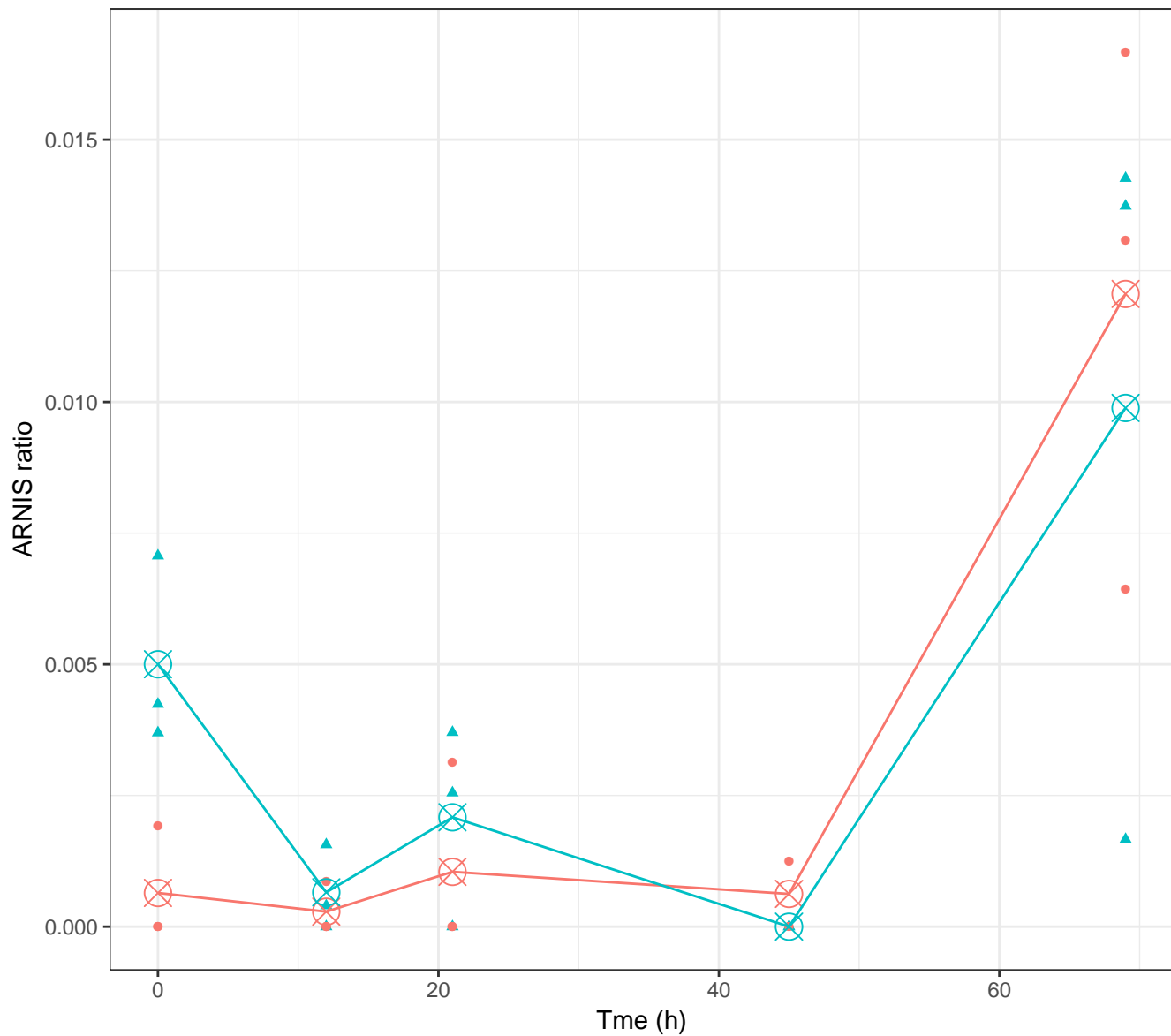
OTU.289_Actinobacteria_Microbacteriaceae

Treatment  Control  Filtered-1micron



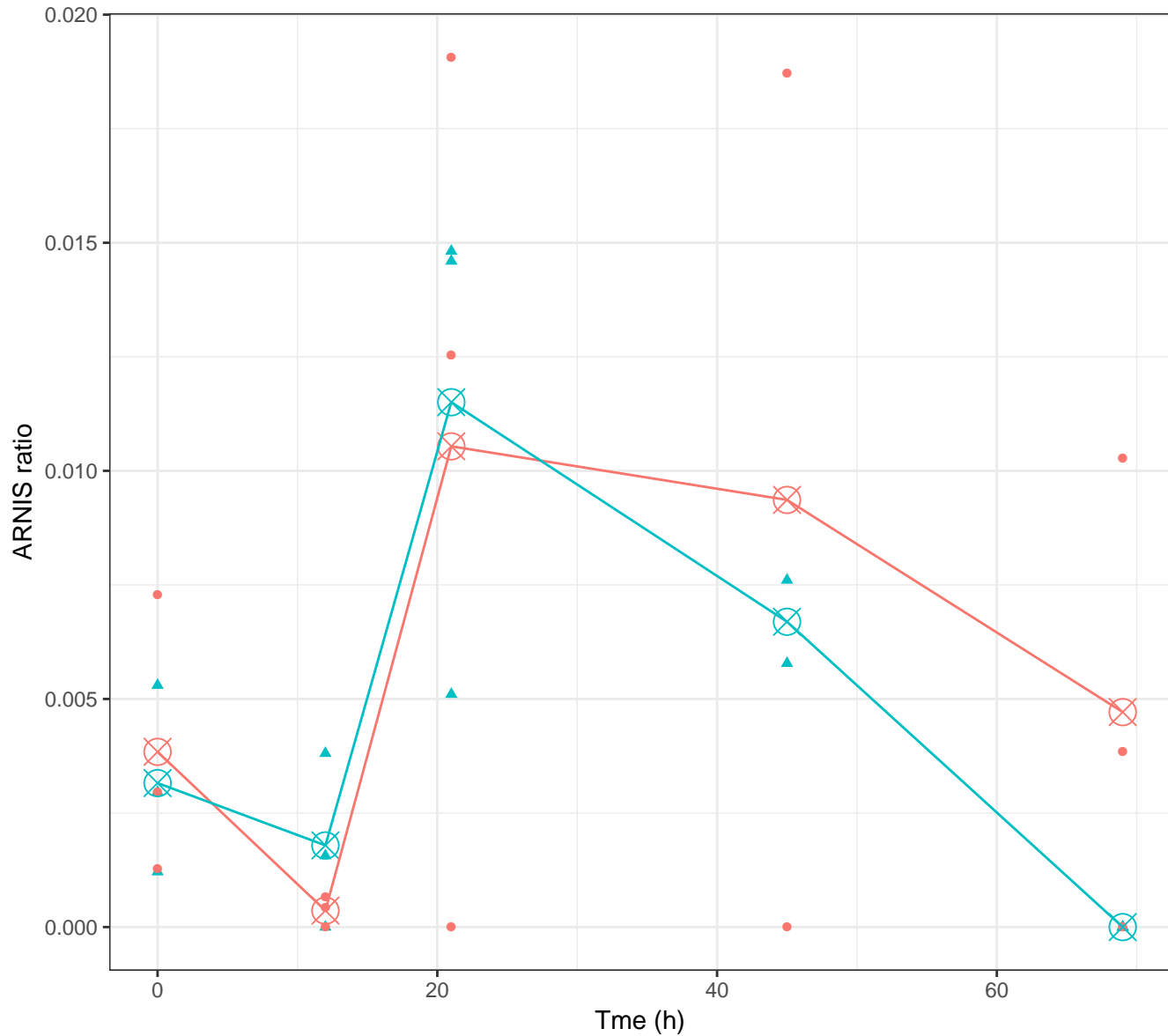
OTU.309_Actinobacteria_Candidatus_Limnoluna

Treatment ⊗ Control ⊗ Filtered-1micron



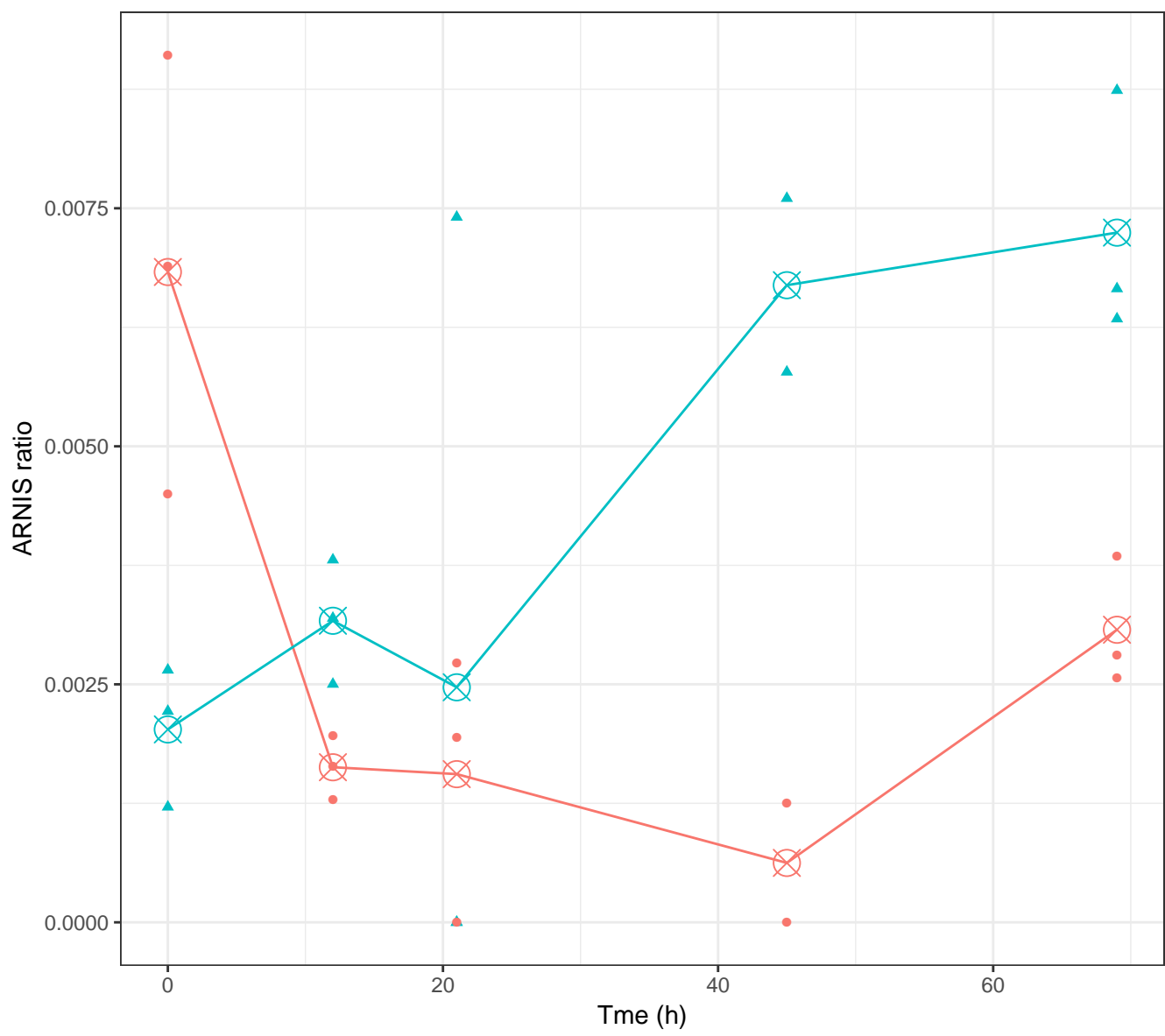
OTU.749_Alphaproteobacteria_Candidatus_Hepaticola

Treatment ⊗ Control ⊗ Filtered-1micron



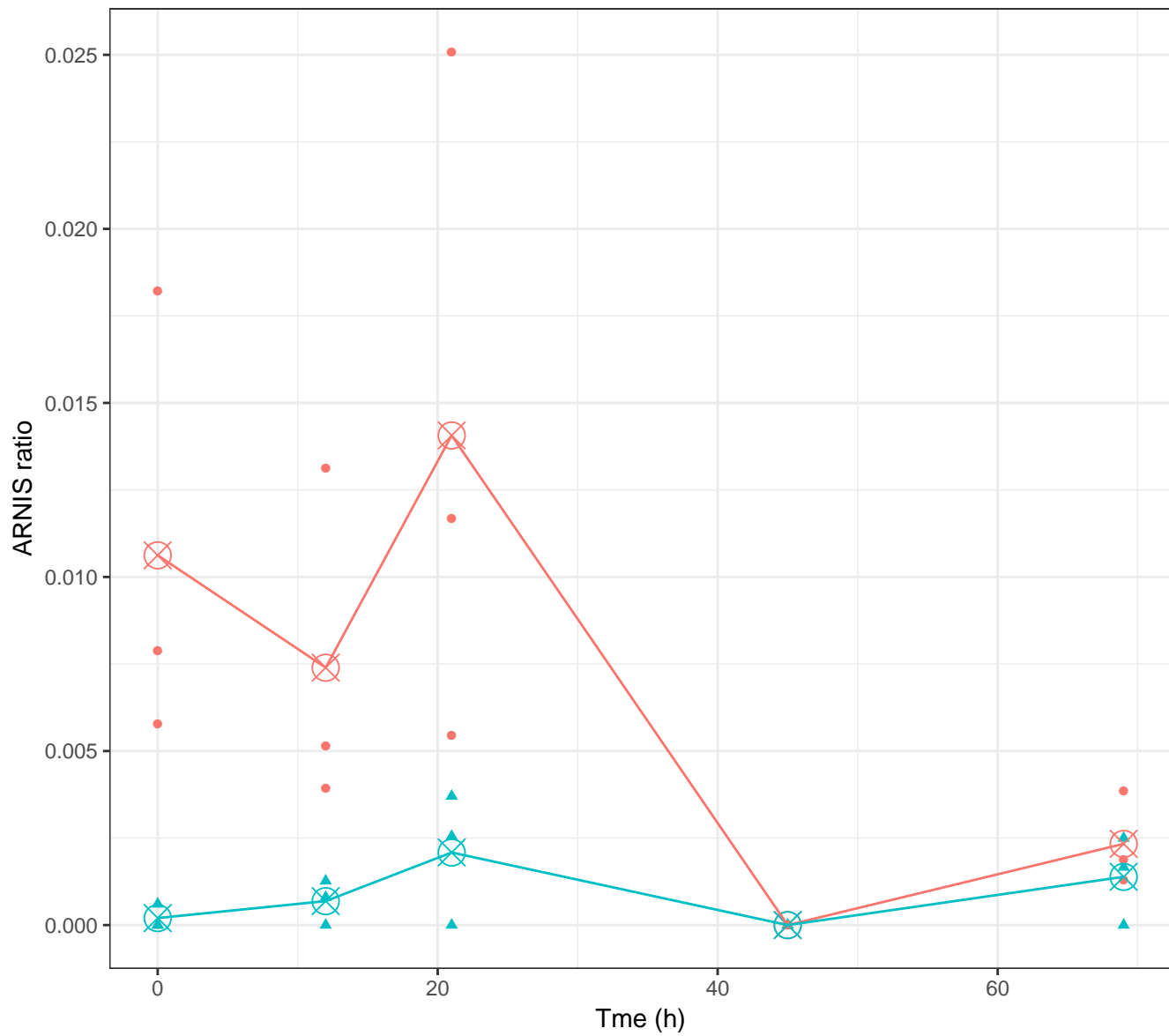
OTU.765_Chlorobi_OPB56

Treatment ⊗ Control ⊗ Filtered-1micron



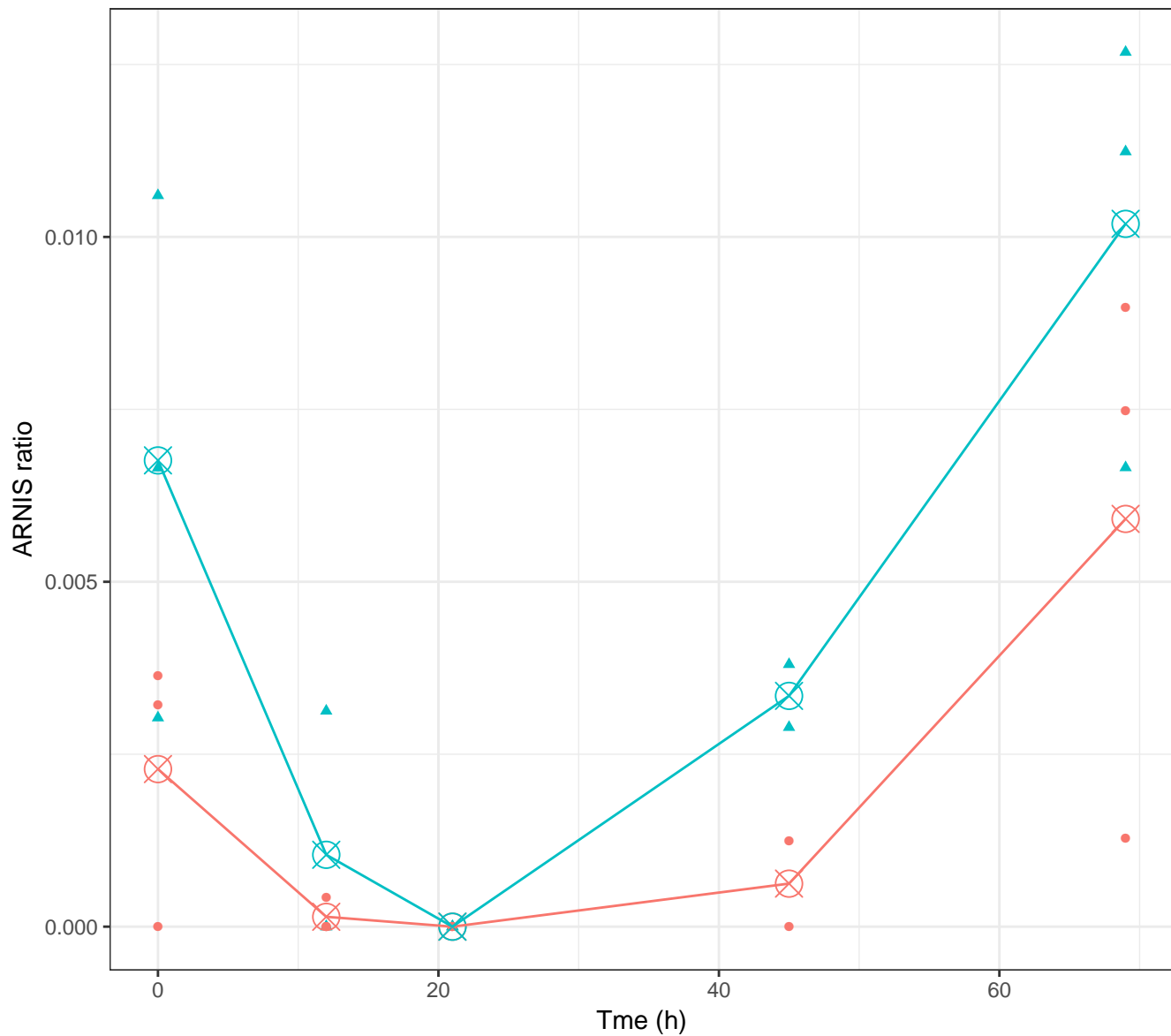
OTU.71_Proteobacteria_Rhodoblastus

Treatment Control Filtered-1micron



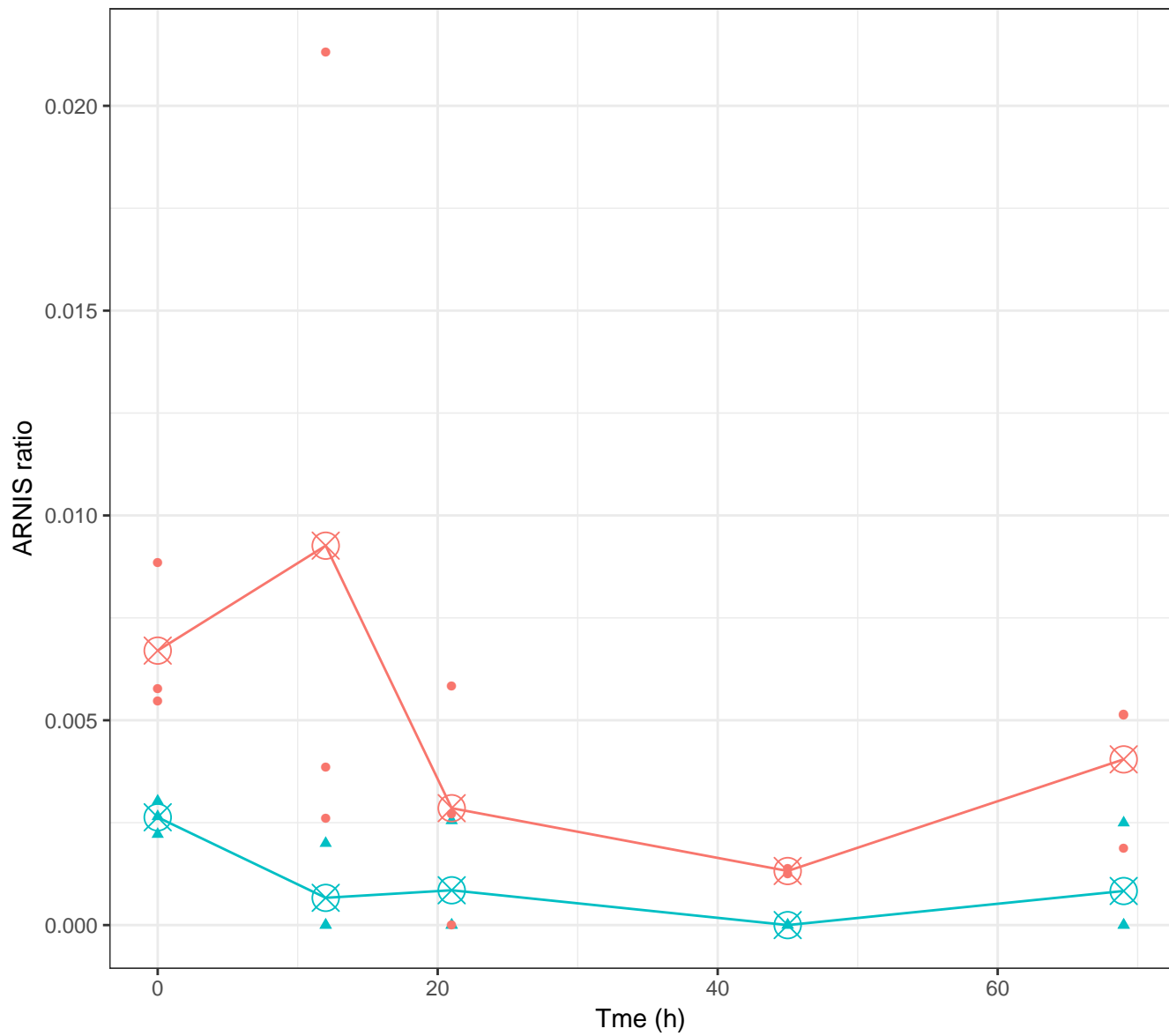


OTU.2215_Actinobacteria_Microbacteriaceae

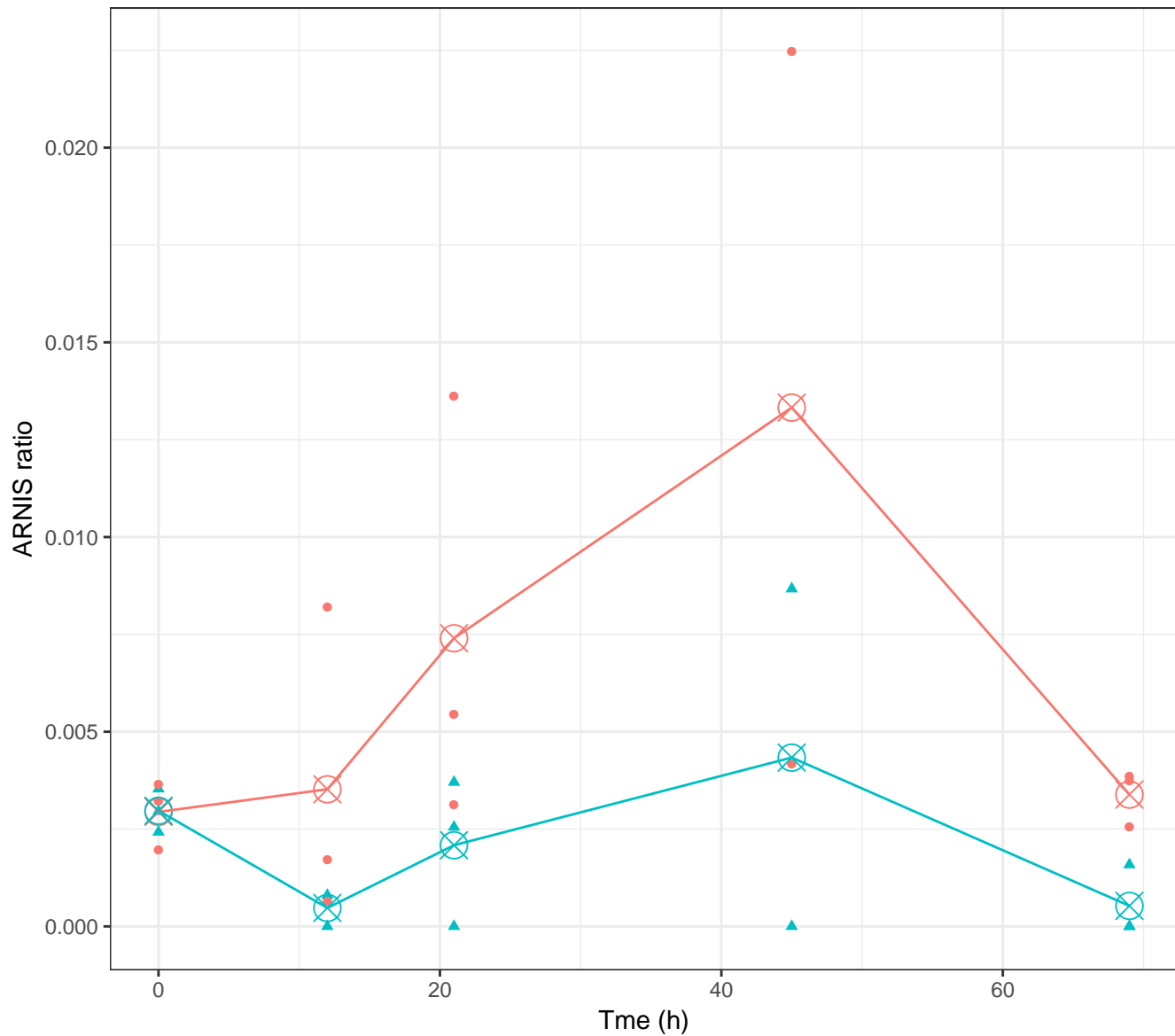
Treatment ⊗ Control ⊗ Filtered-1micron



OTU.187_Verrucomicrobia_Chthoniobacterales

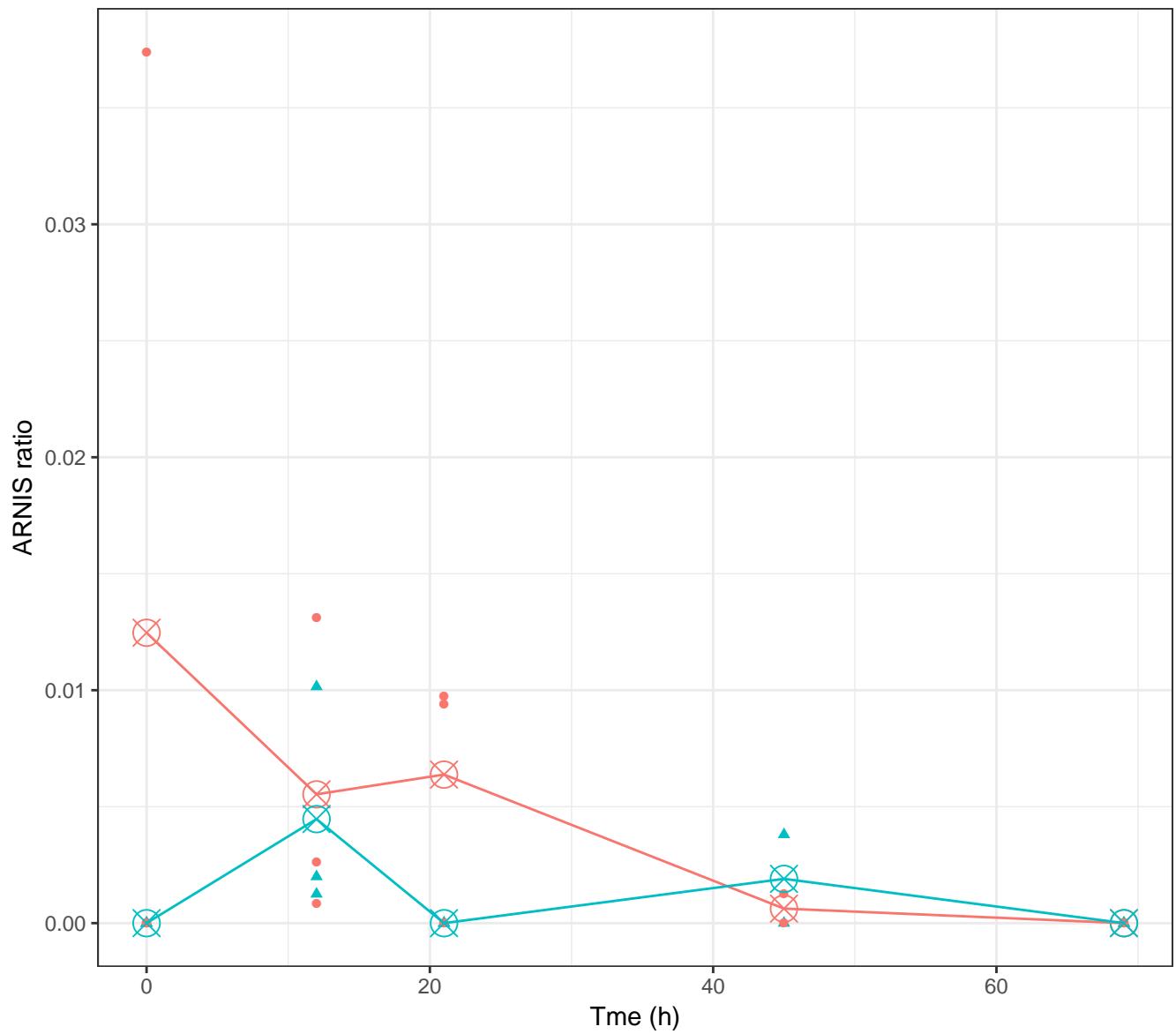
Treatment  Control  Filtered-1micron

OTU.767_Bacteroidetes_NS11.12_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron

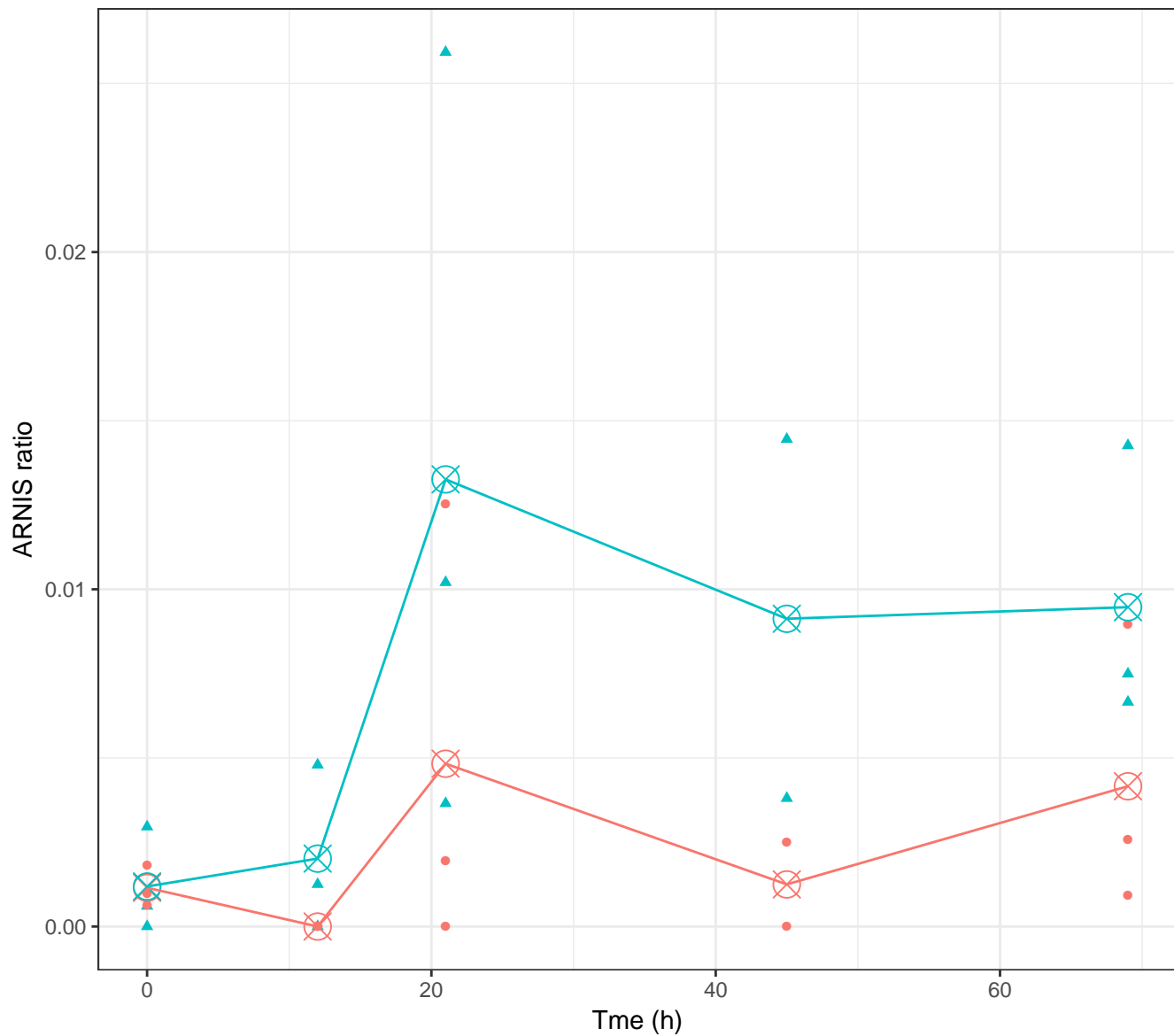
OTU.609_Actinobacteria_Corynebacteriaceae

Treatment Control Filtered-1micron





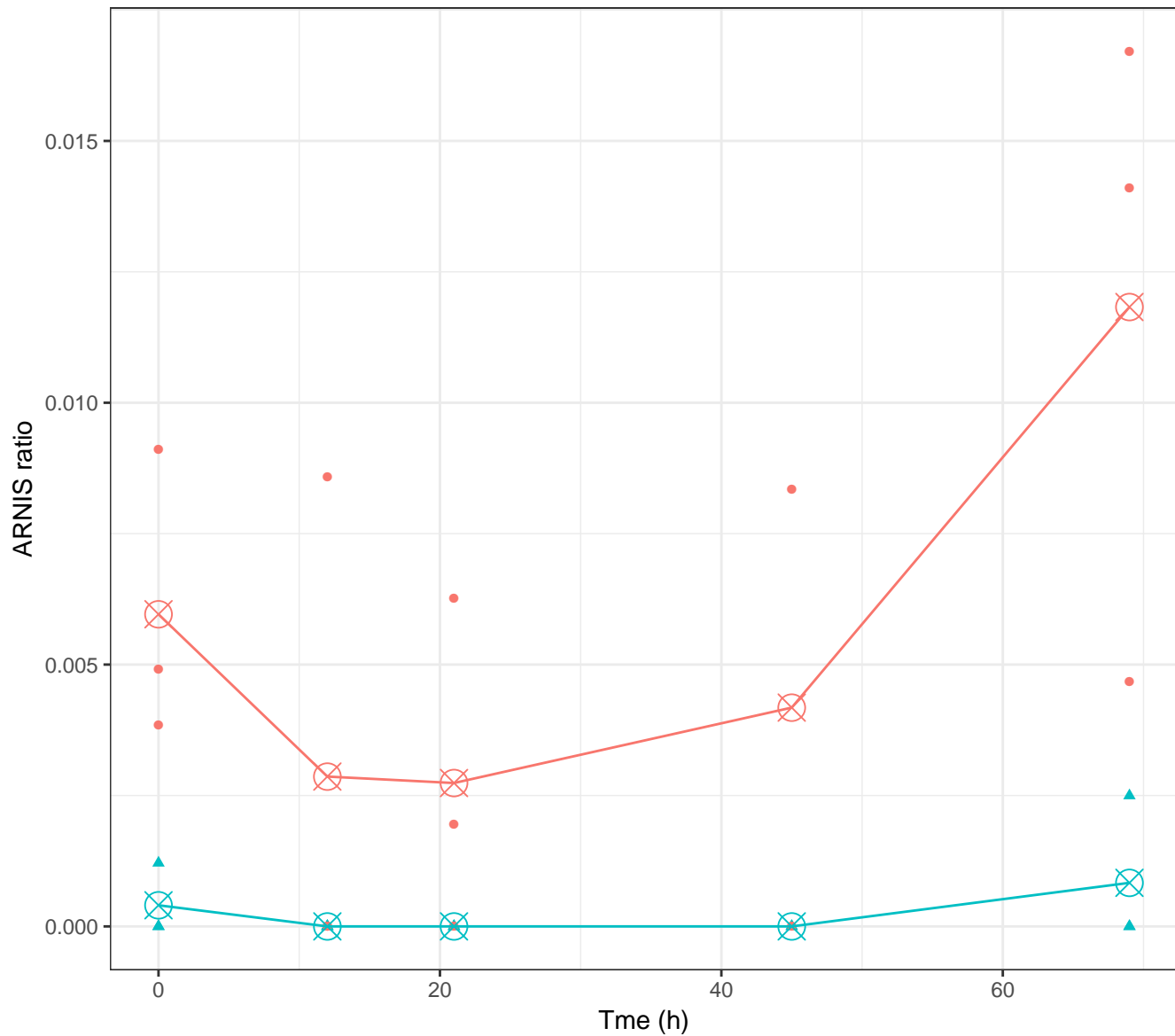
OTU.425_Bacteroidetes_Chitinophagaceae

Treatment Control Filtered-1micron



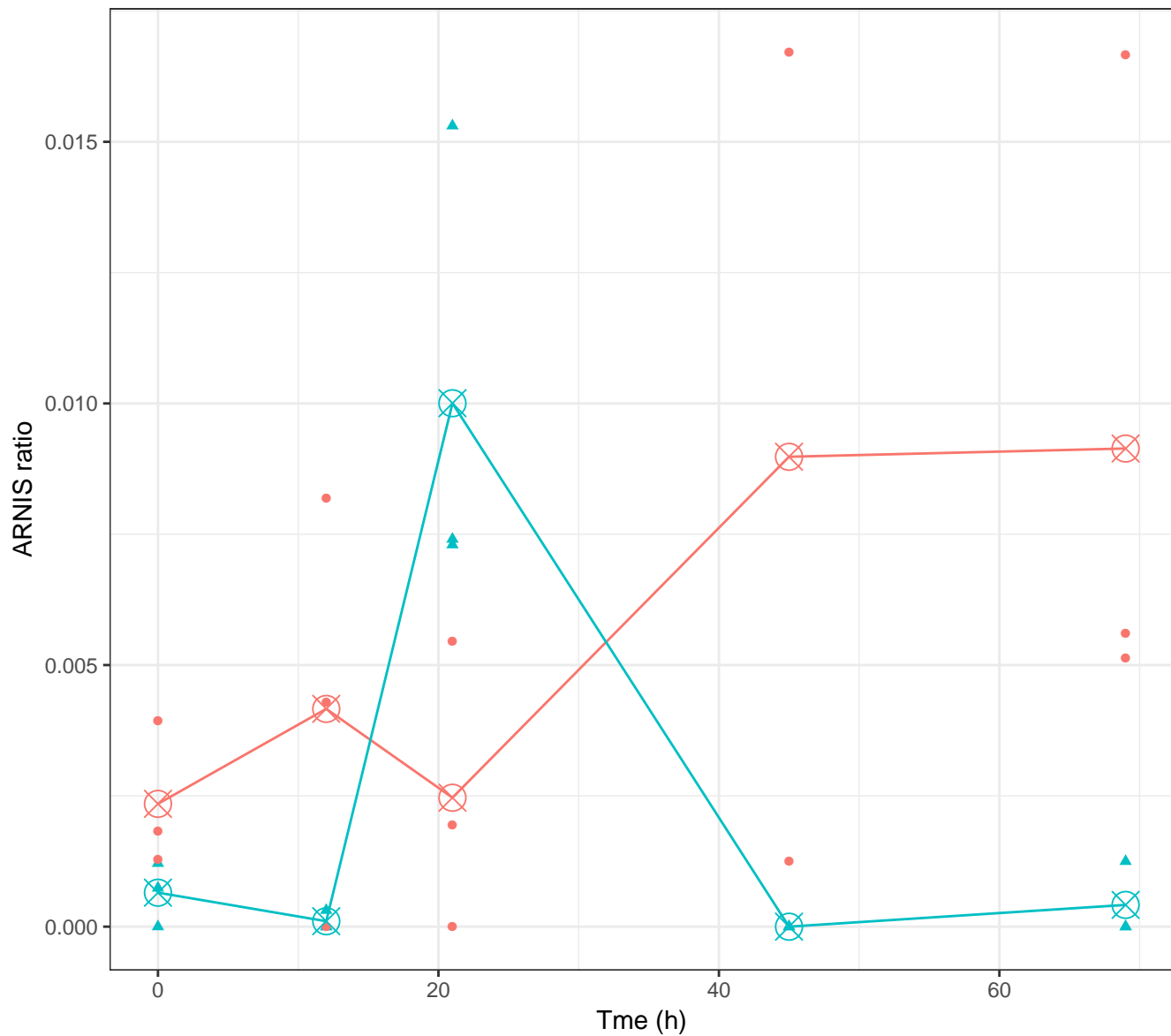
OTU.901_Verrucomicrobia_OPB35_soil_group

Treatment  Control  Filtered-1micron



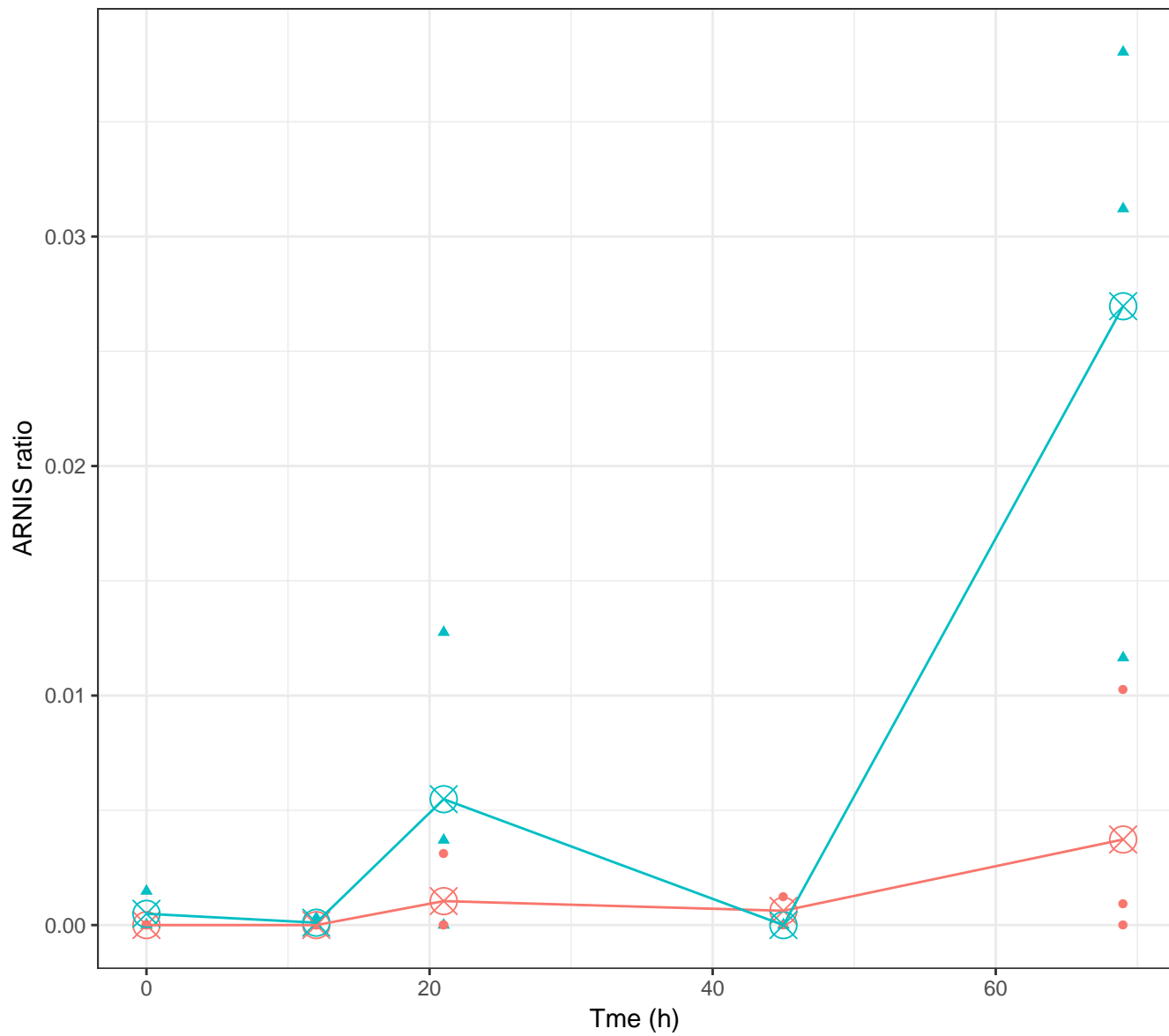
OTU.918_Candidate_division_SR1

Treatment ⊗ Control ⊗ Filtered-1micron



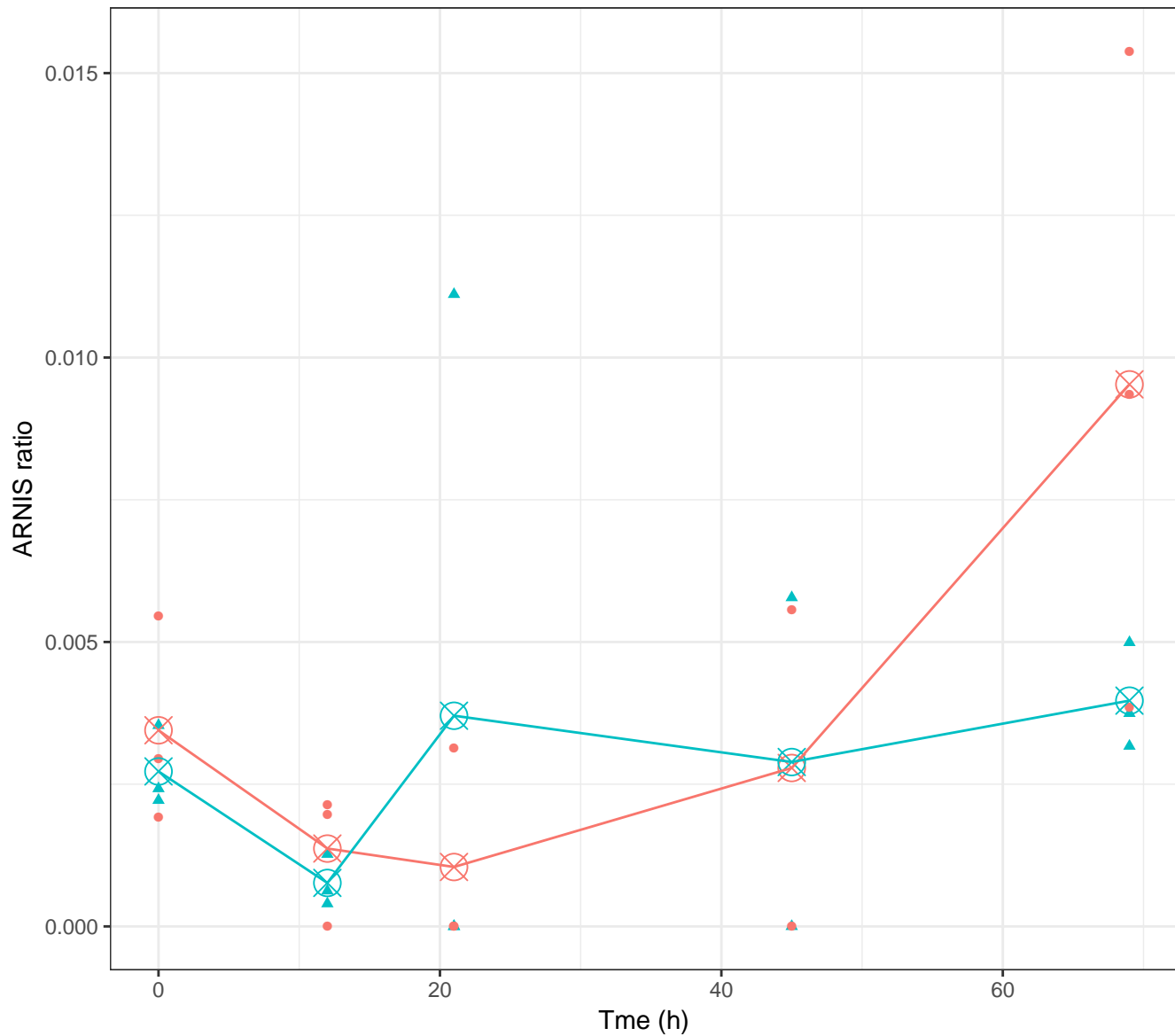
OTU.1235_Bacteroidetes_Leadbetterella

Treatment Control Filtered-1micron



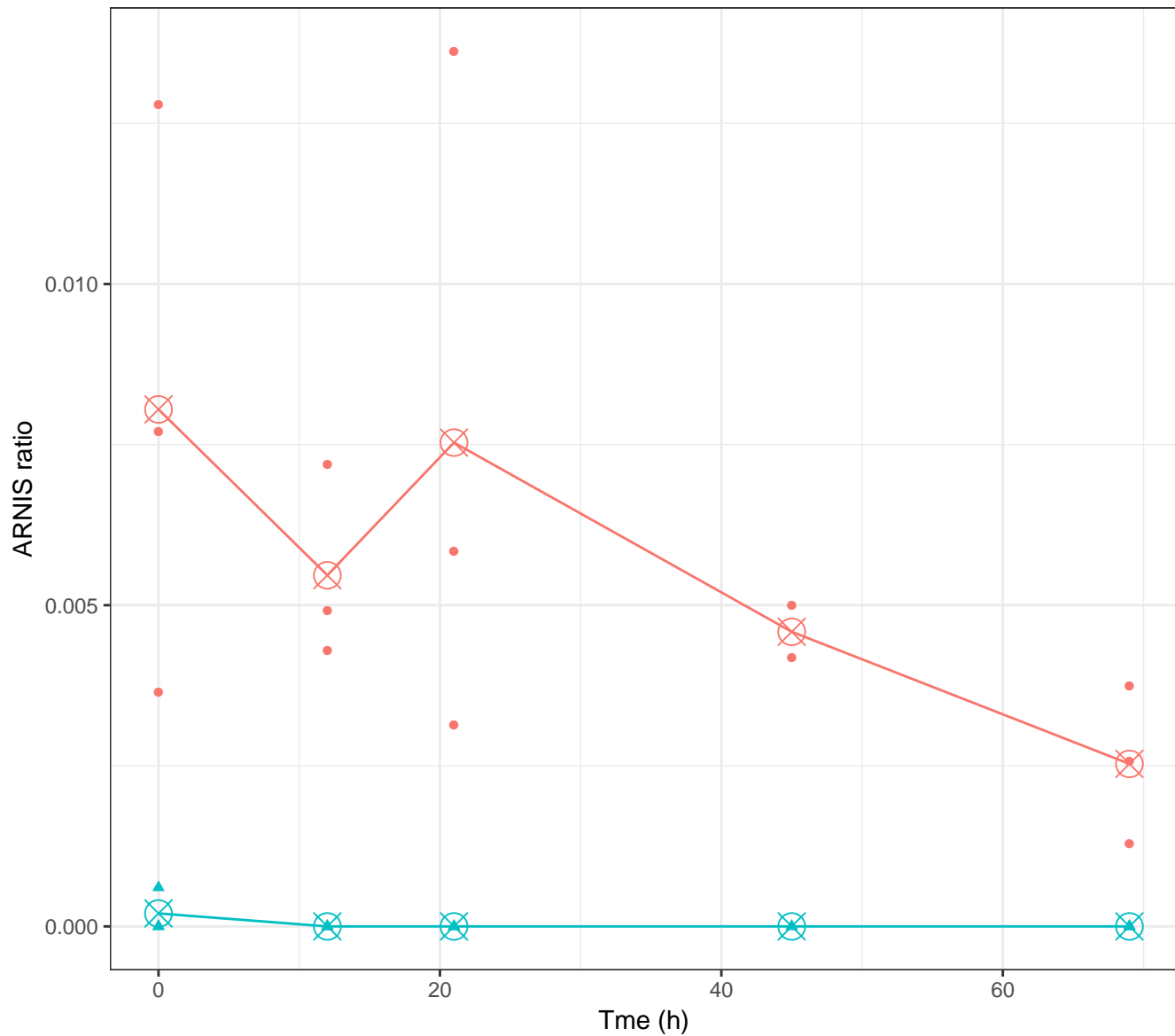


OTU.6899_Betaproteobacteria_Polynucleobacter

Treatment ⊗ Control ⊗ Filtered-1micron

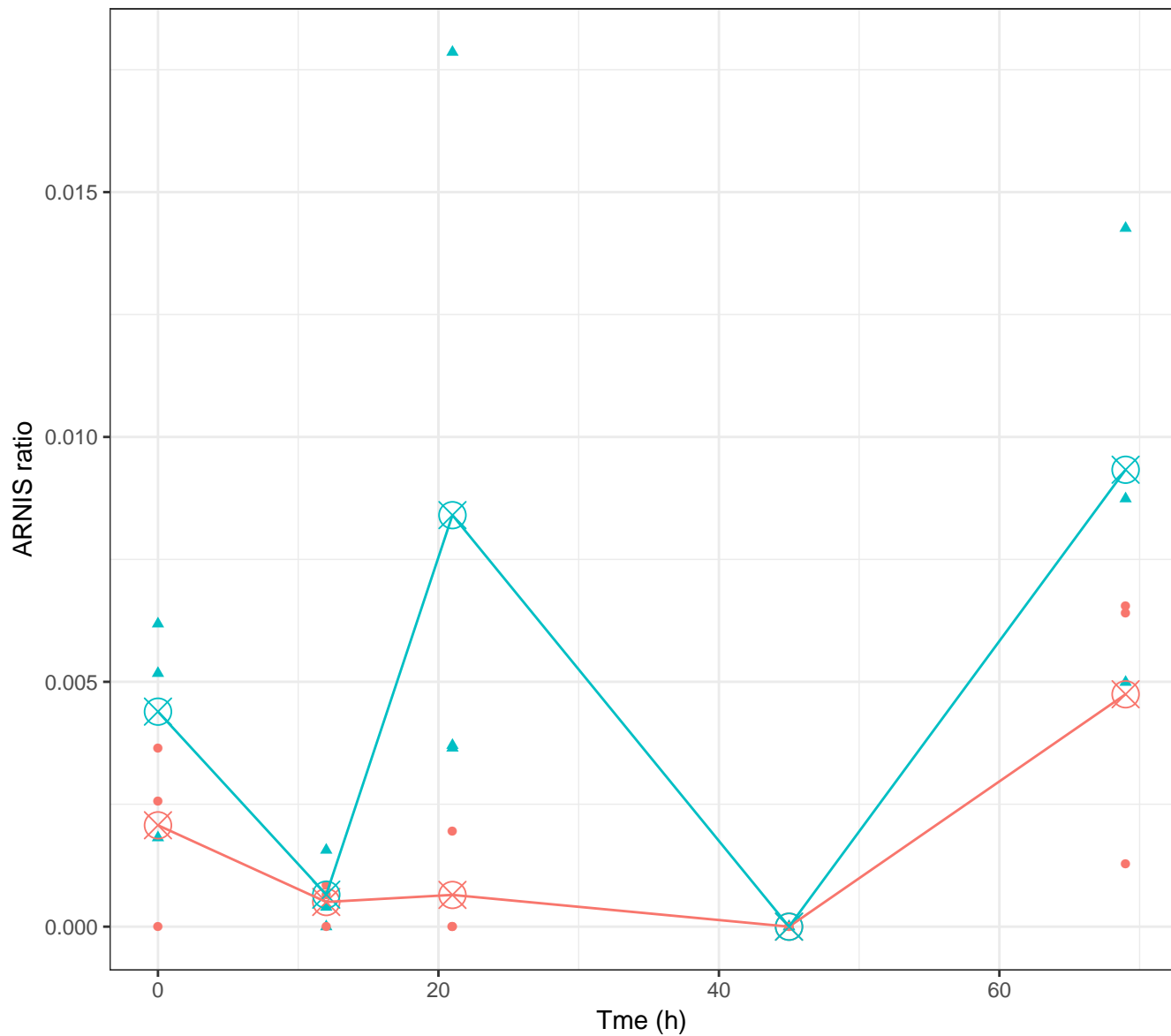


OTU.664_Planctomyces_Planctomycetaceae



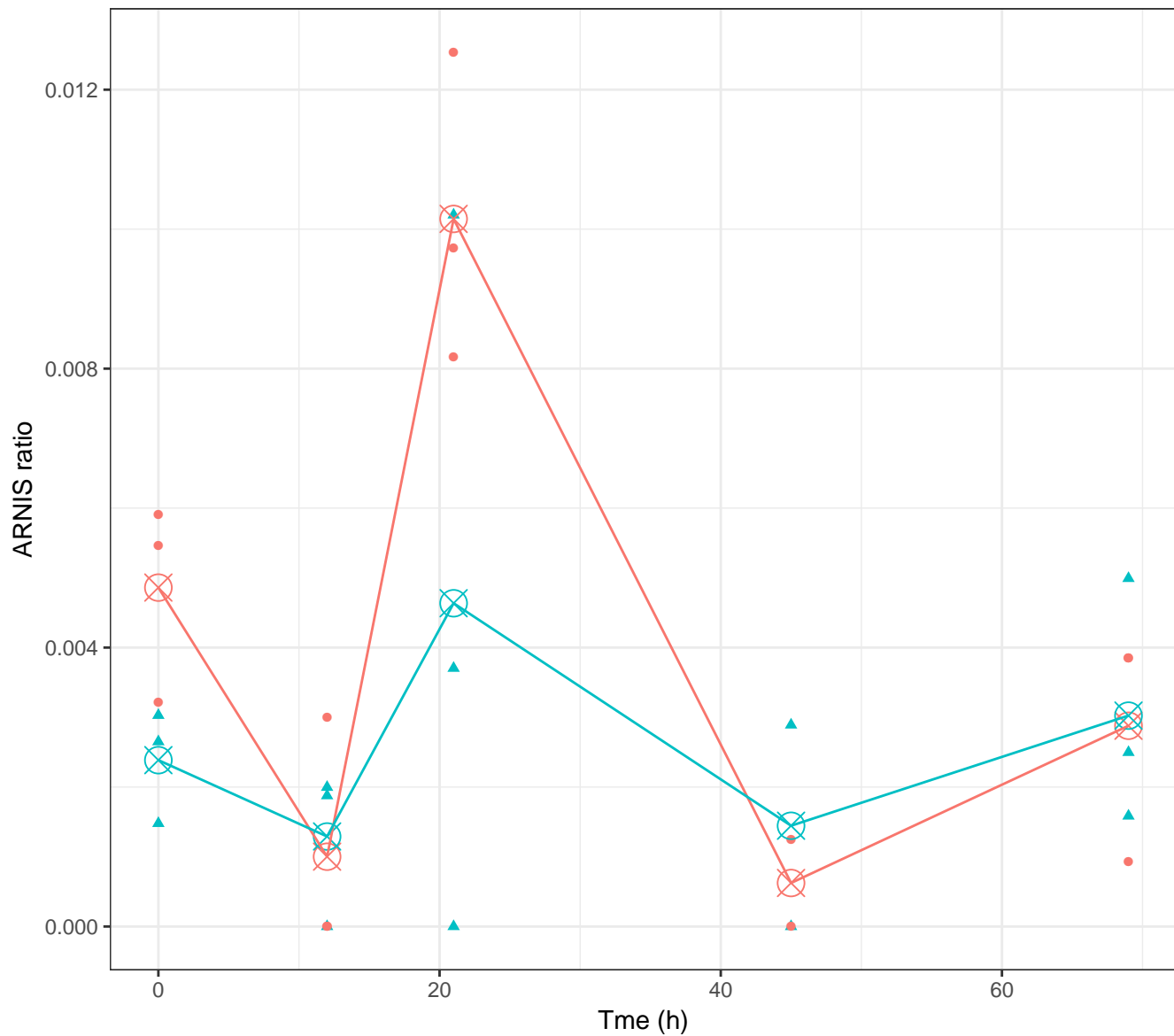
Treatment  Control  Filtered-1micron

OTU.1230_Actinobacteria_clade_acSTL

Treatment ⊗ Control ⊗ Filtered-1micron

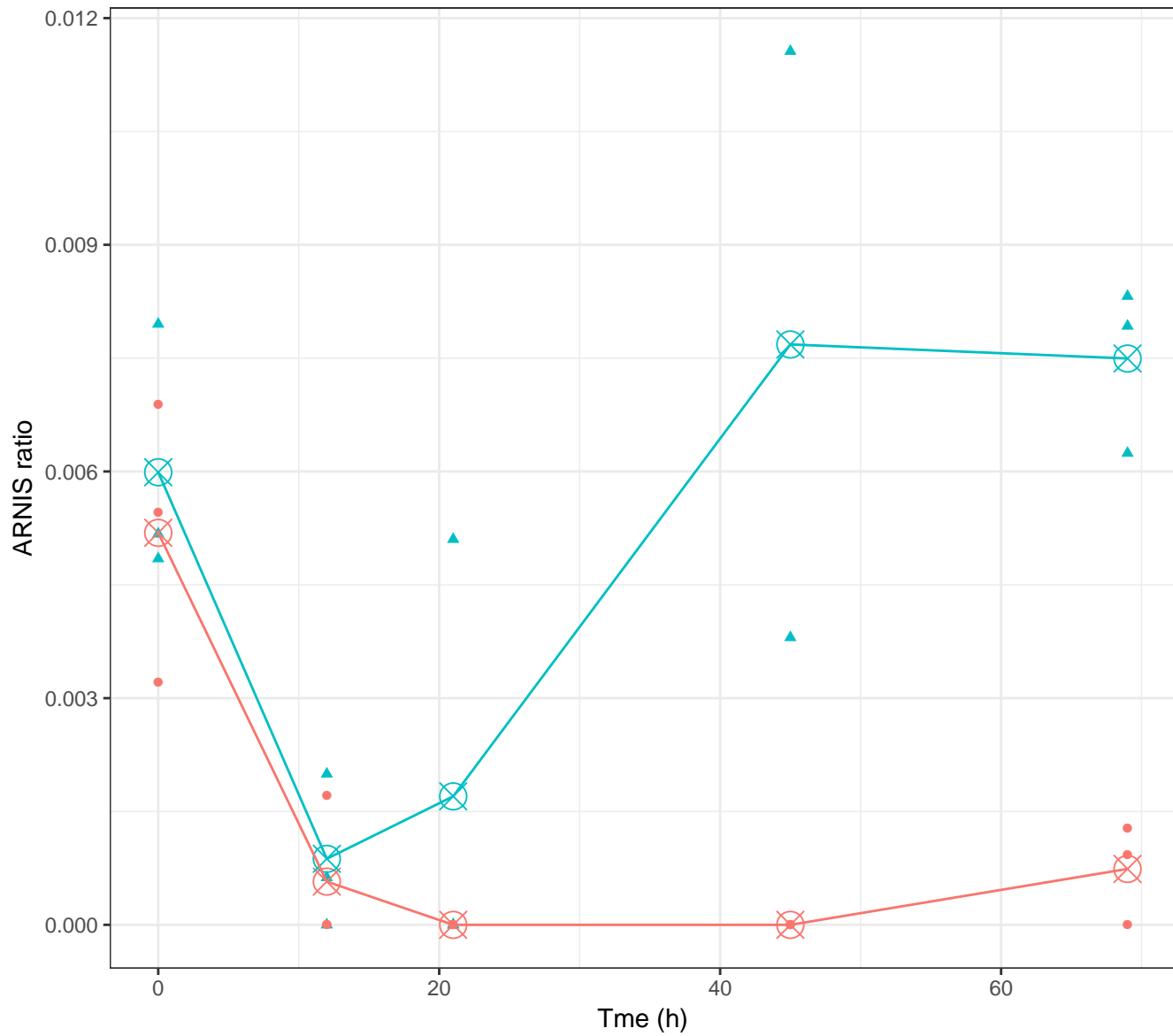


OTU.218_Planctomyces_Planctomycetaceae

Treatment  Control  Filtered-1micron

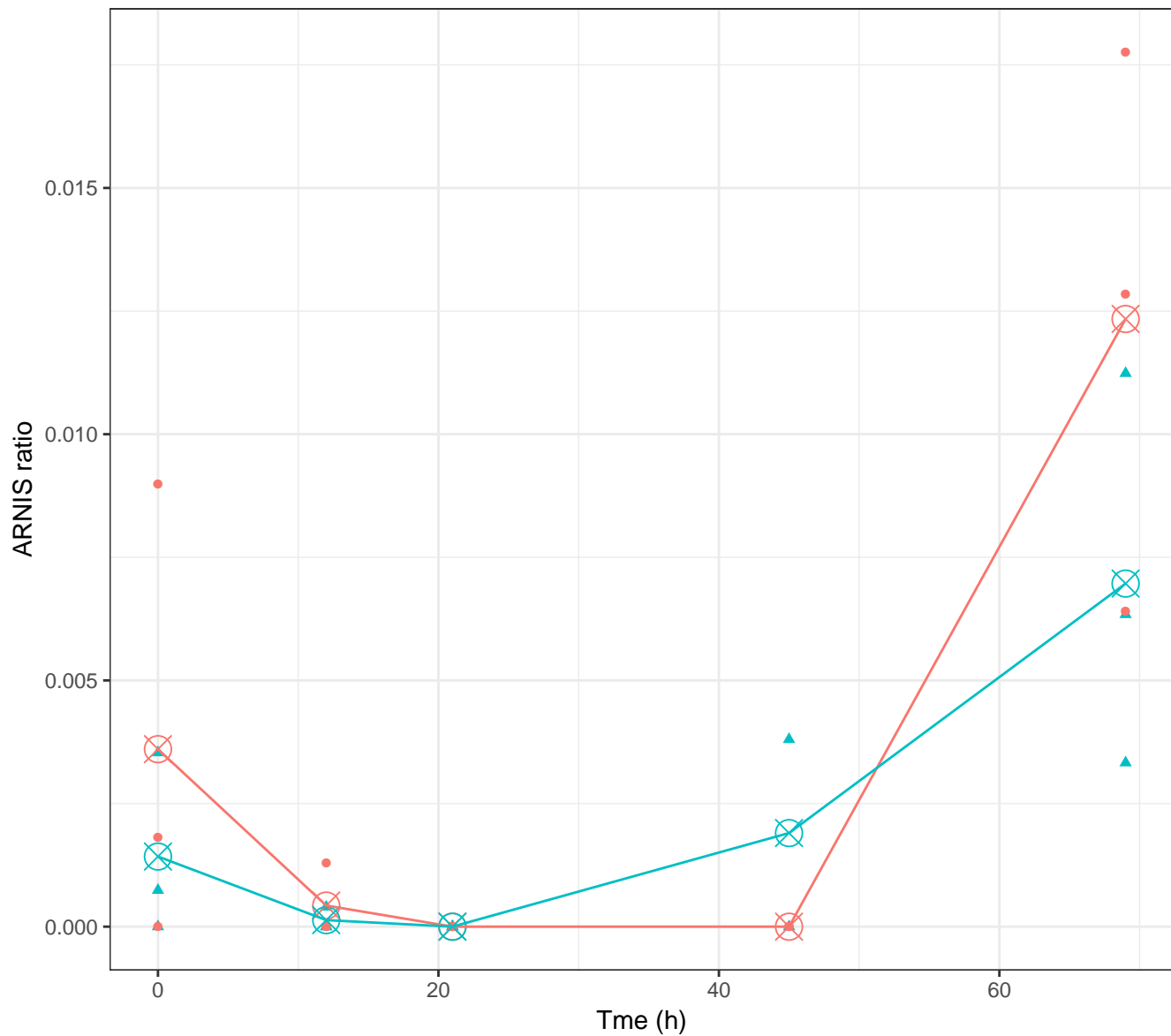
OTU.803_Deltaproteobacteria_Sorangineae

Treatment ⊗ Control ⊗ Filtered-1micron



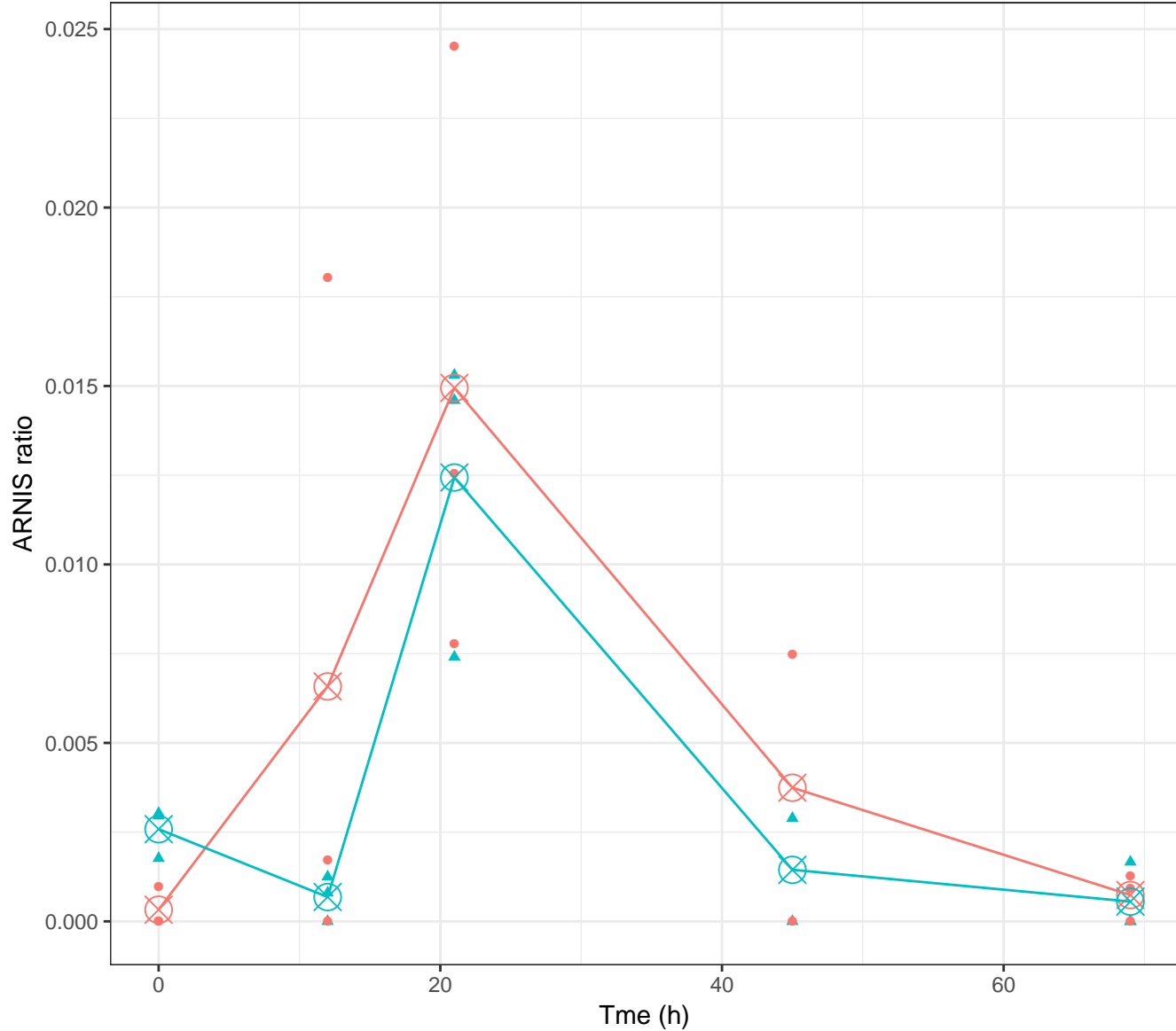
OTU.7025_Verrucomicrobia_UA11

Treatment ⊗ Control ⊗ Filtered-1micron



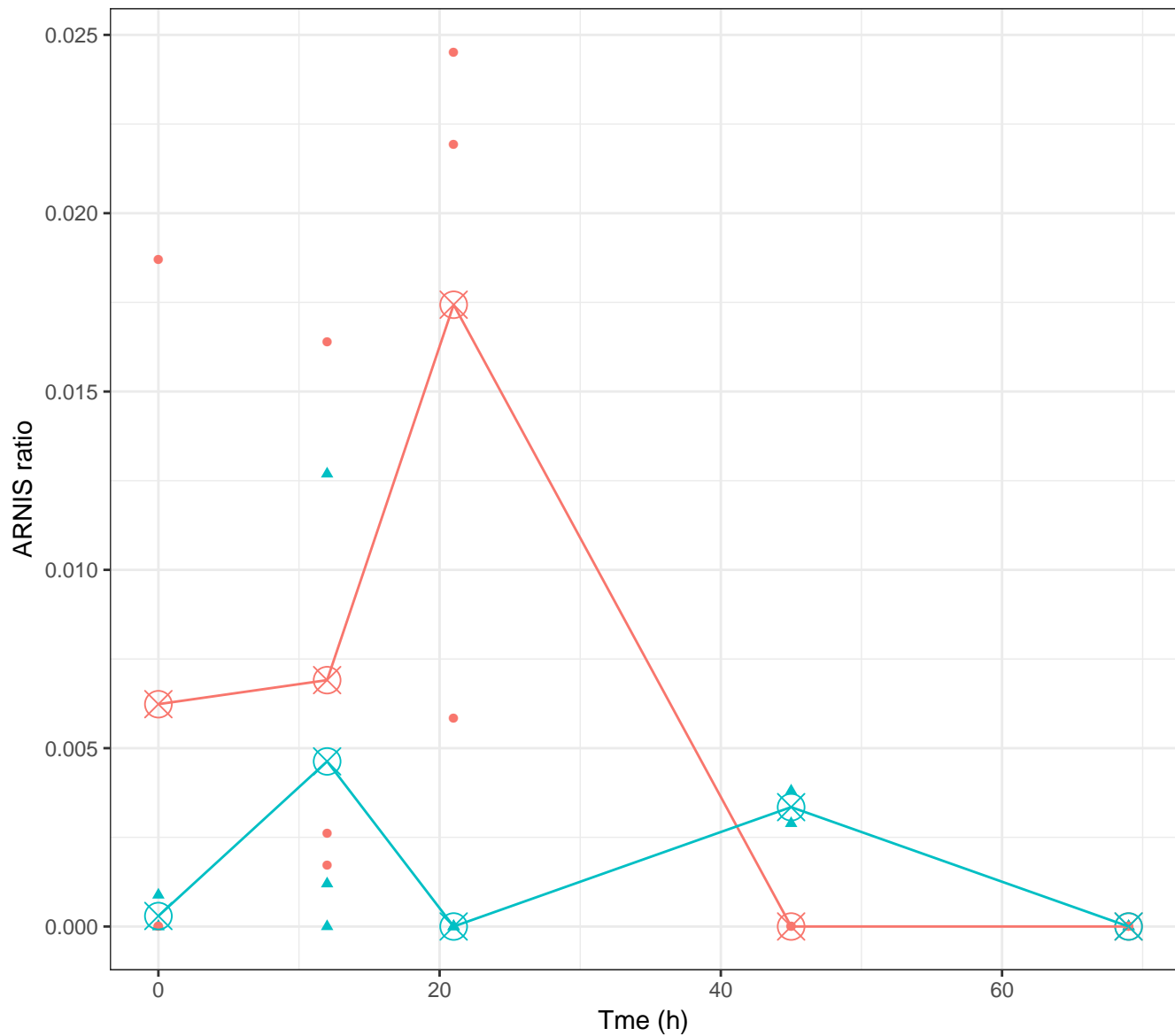
OTU.635_Gammaproteobacteria_Legionella

Treatment Control Filtered-1micron



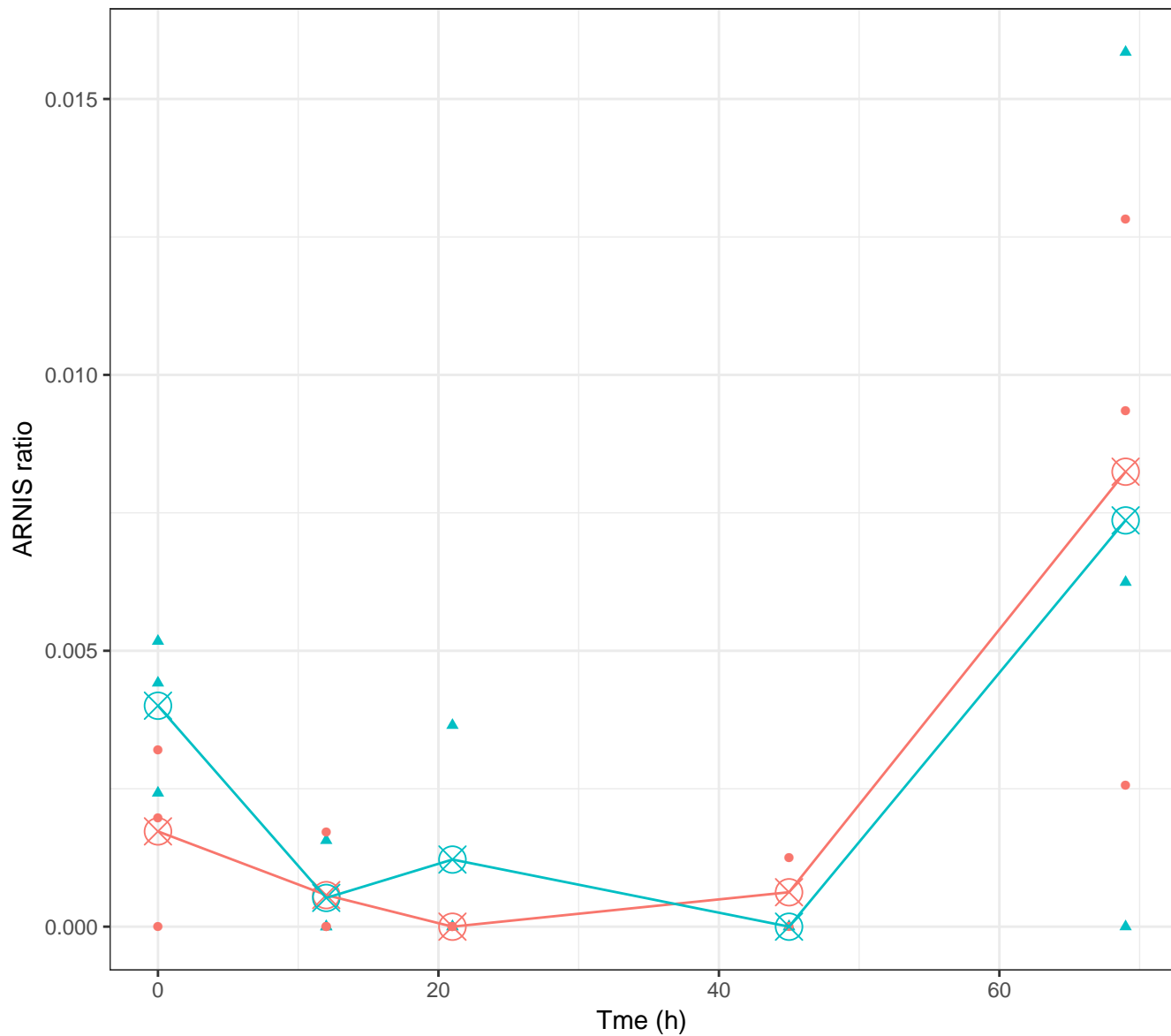
OTU.623_Firmicutes_Streptococcus

Treatment ⊗ Control ⊗ Filtered-1micron



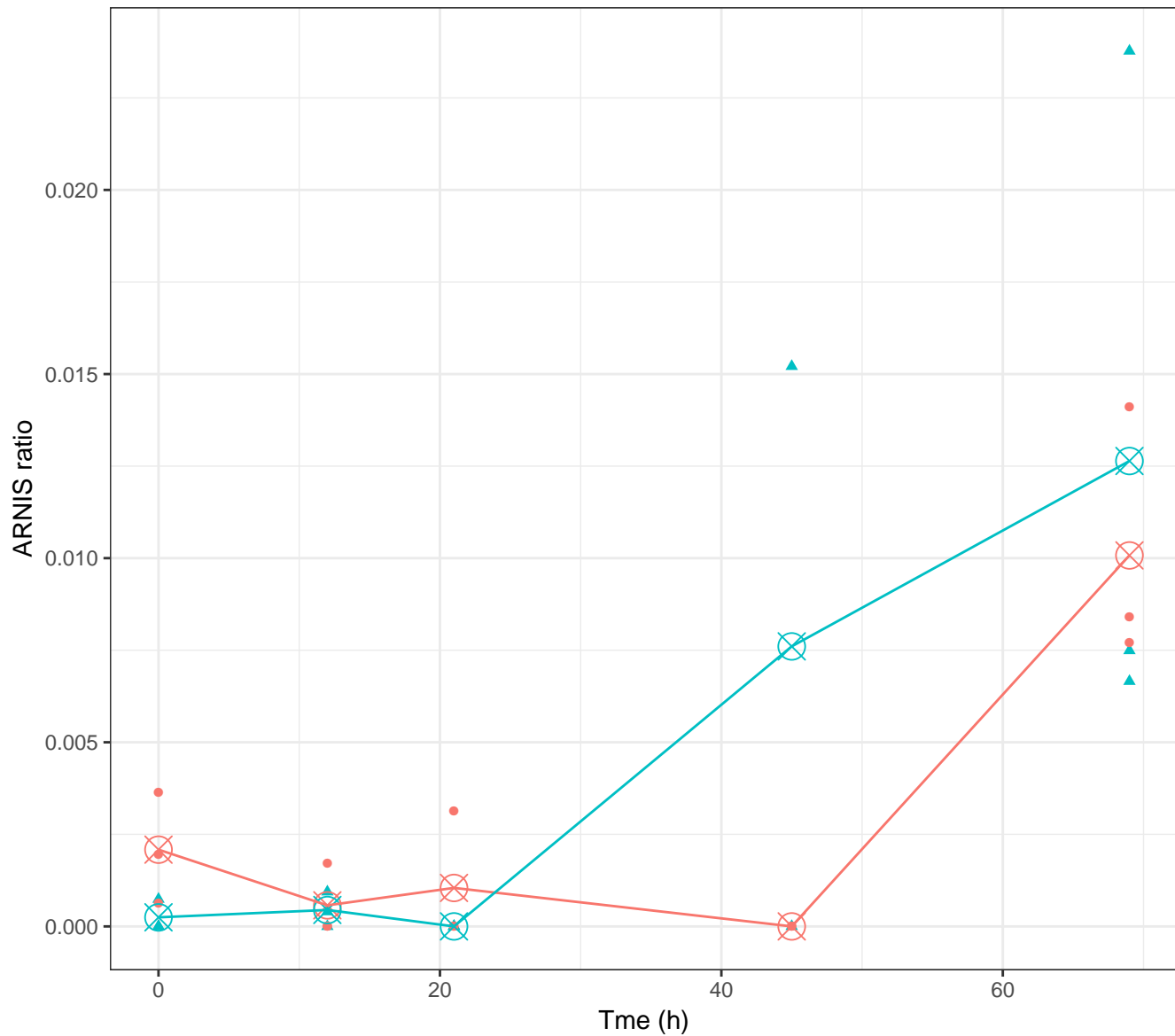
OTU.162_Actinobacteria_clade_acl.B1

Treatment Control Filtered-1micron



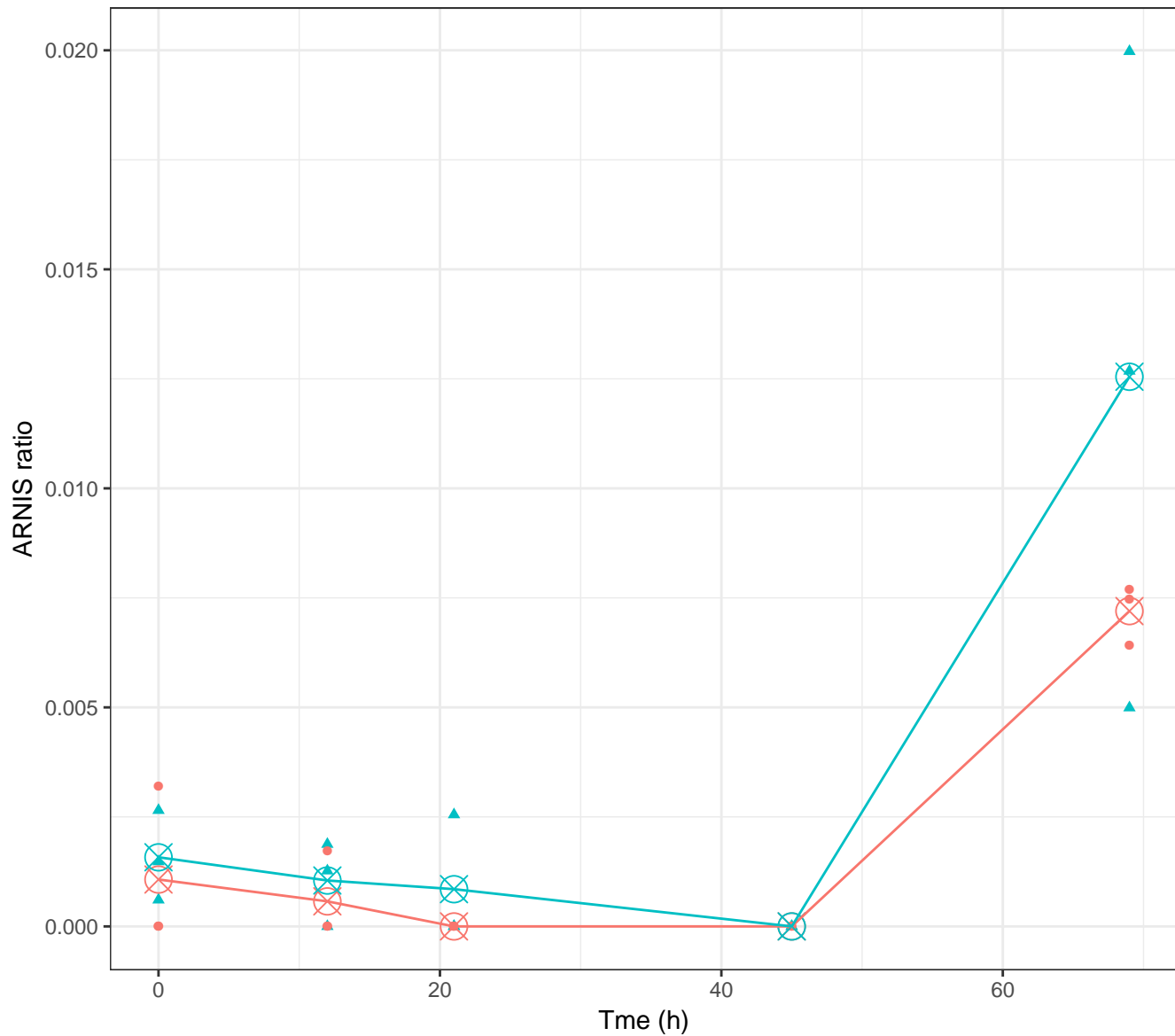
OTU.912_Betaproteobacteria_Comamonadaceae

Treatment ⊗ Control ⊗ Filtered-1micron



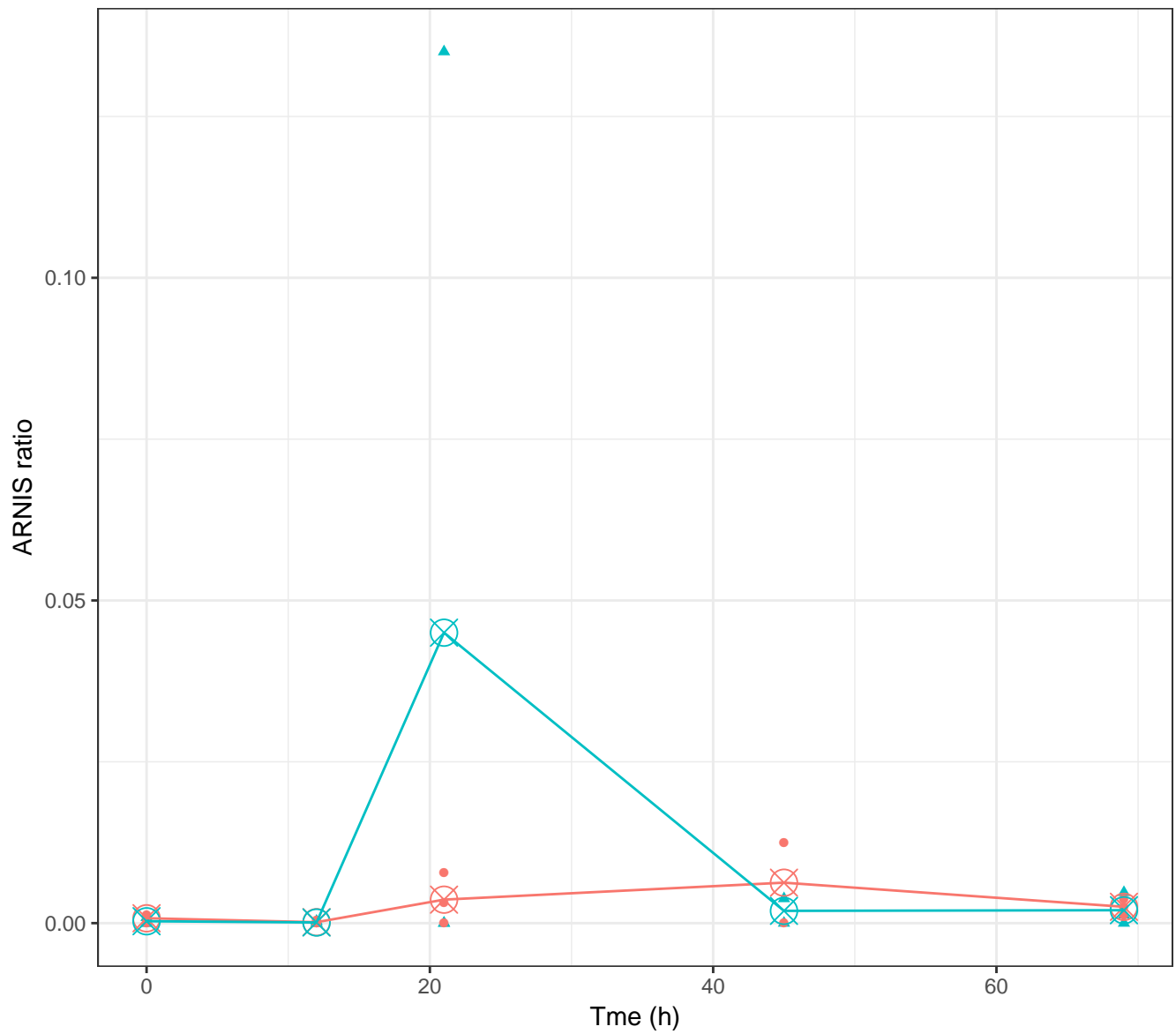
OTU.352_Actinobacteria_CL500.29_marine_group.freshwater_aclV.A_clade

Treatment ⊗ Control ⊗ Filtered-1micron



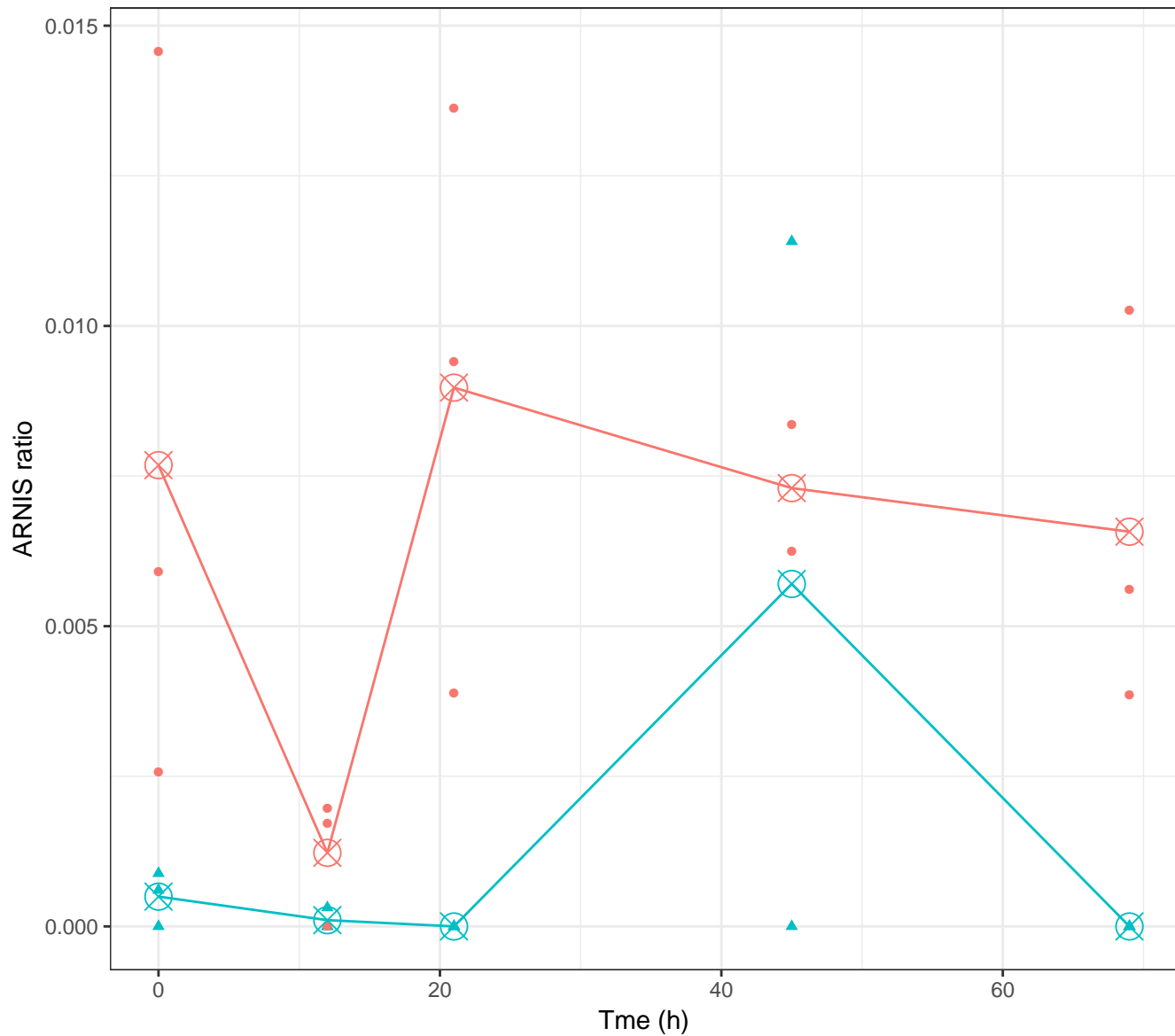
OTU.1269_Betaproteobacteria_Comamonadaceae

Treatment Control Filtered-1micron



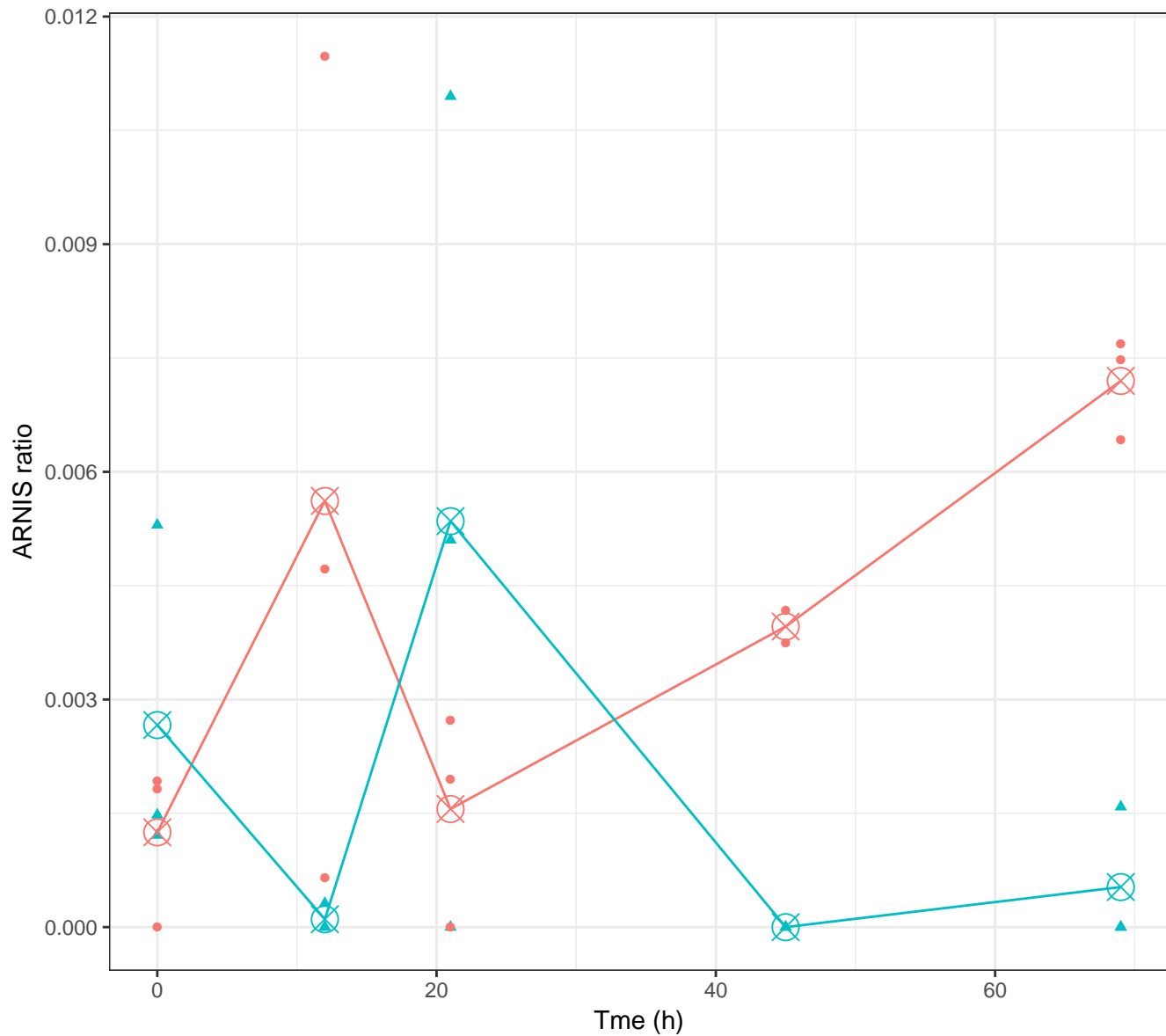
OTU.943_Bacteroidetes_Cytophagaceae

Treatment ⊗ Control ⊗ Filtered-1micron



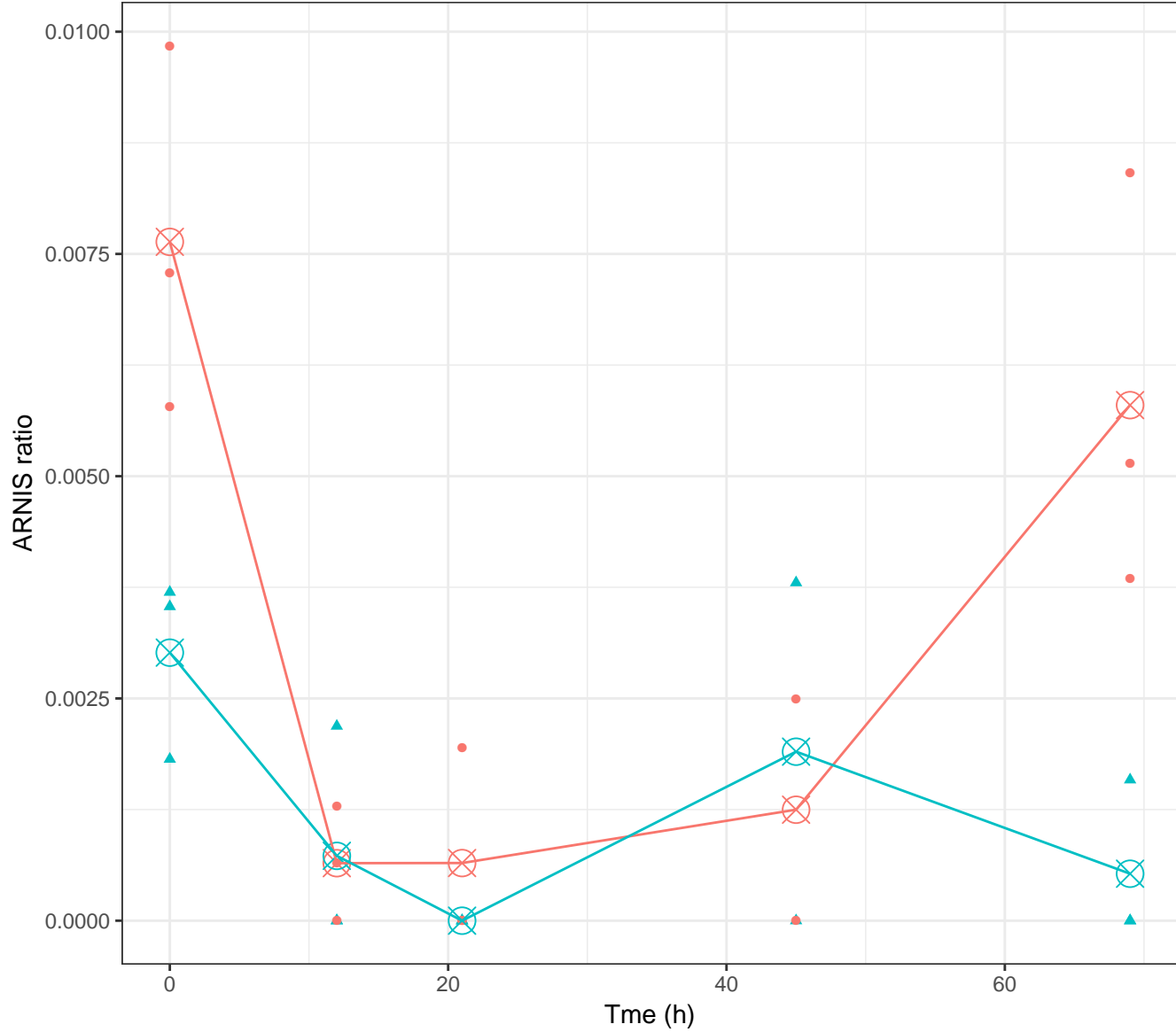
OTU.1090_Proteobacteria_TA18

Treatment ⊗ Control ⊗ Filtered-1micron



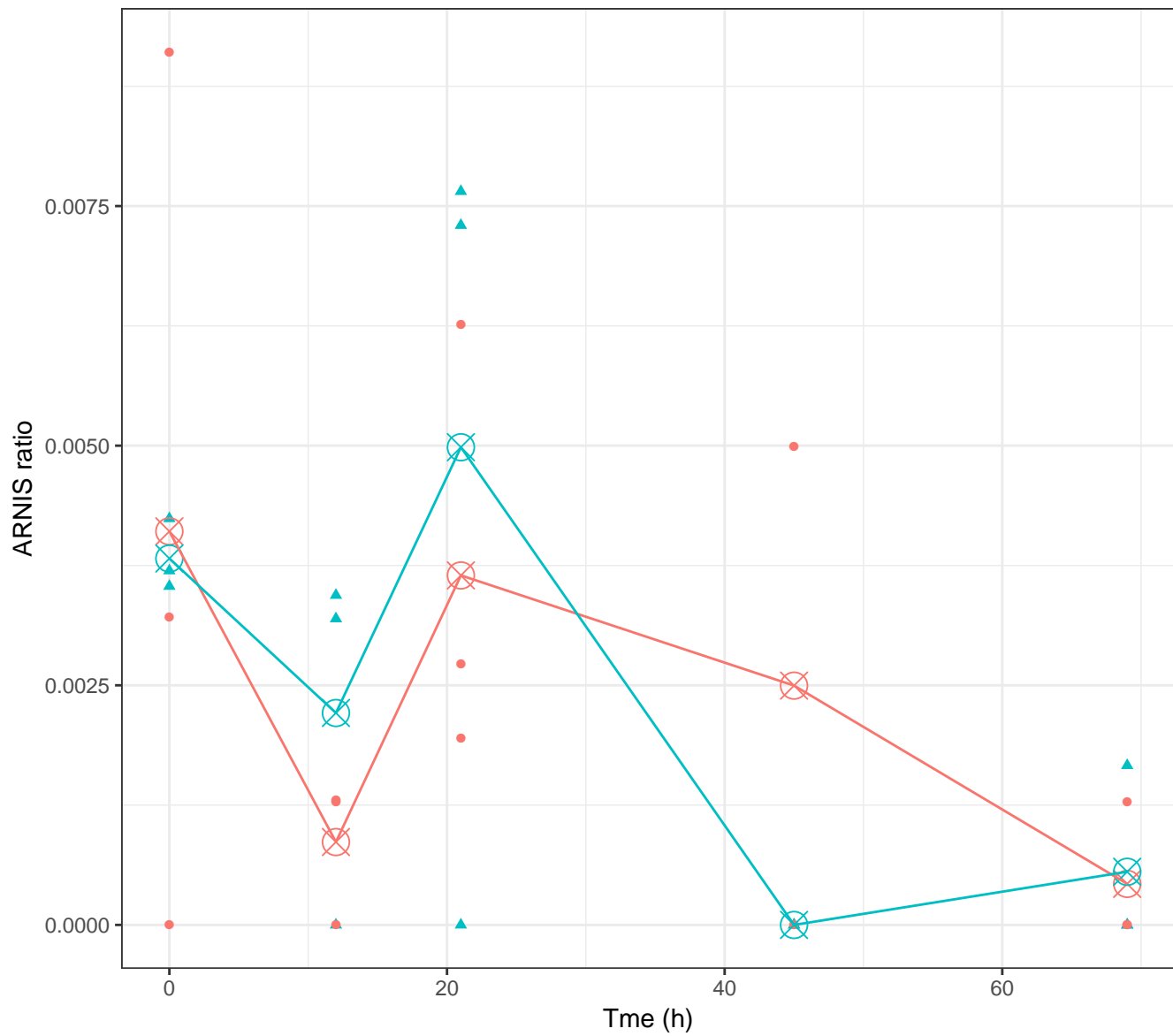
OTU.5439_Betaproteobacteria_Comamonadaceae

Treatment ⊗ Control ⊗ Filtered-1micron



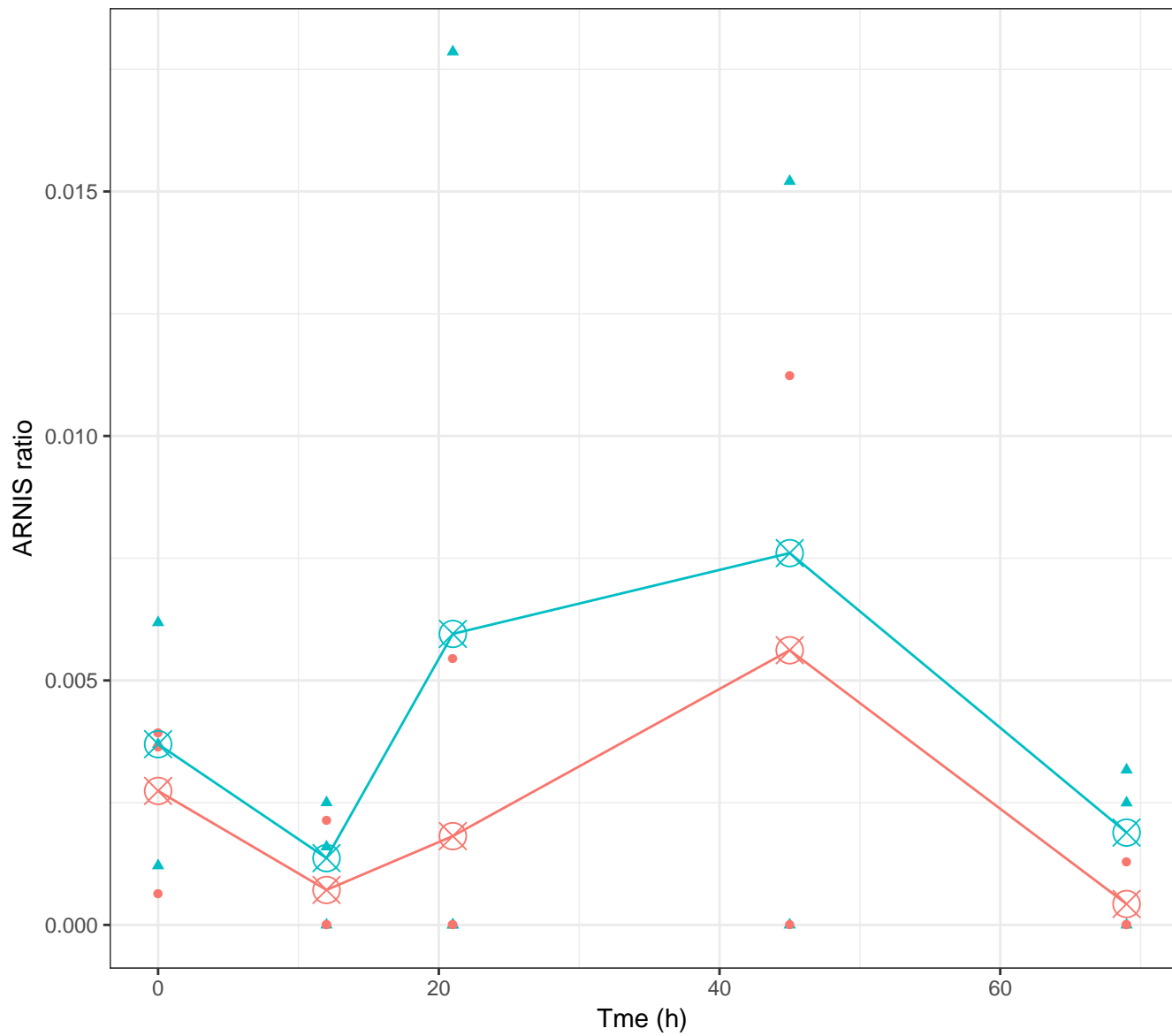


OTU.136_Actinobacteria_Sporichthyaceae

Treatment ⊗ Control ⊗ Filtered-1micron

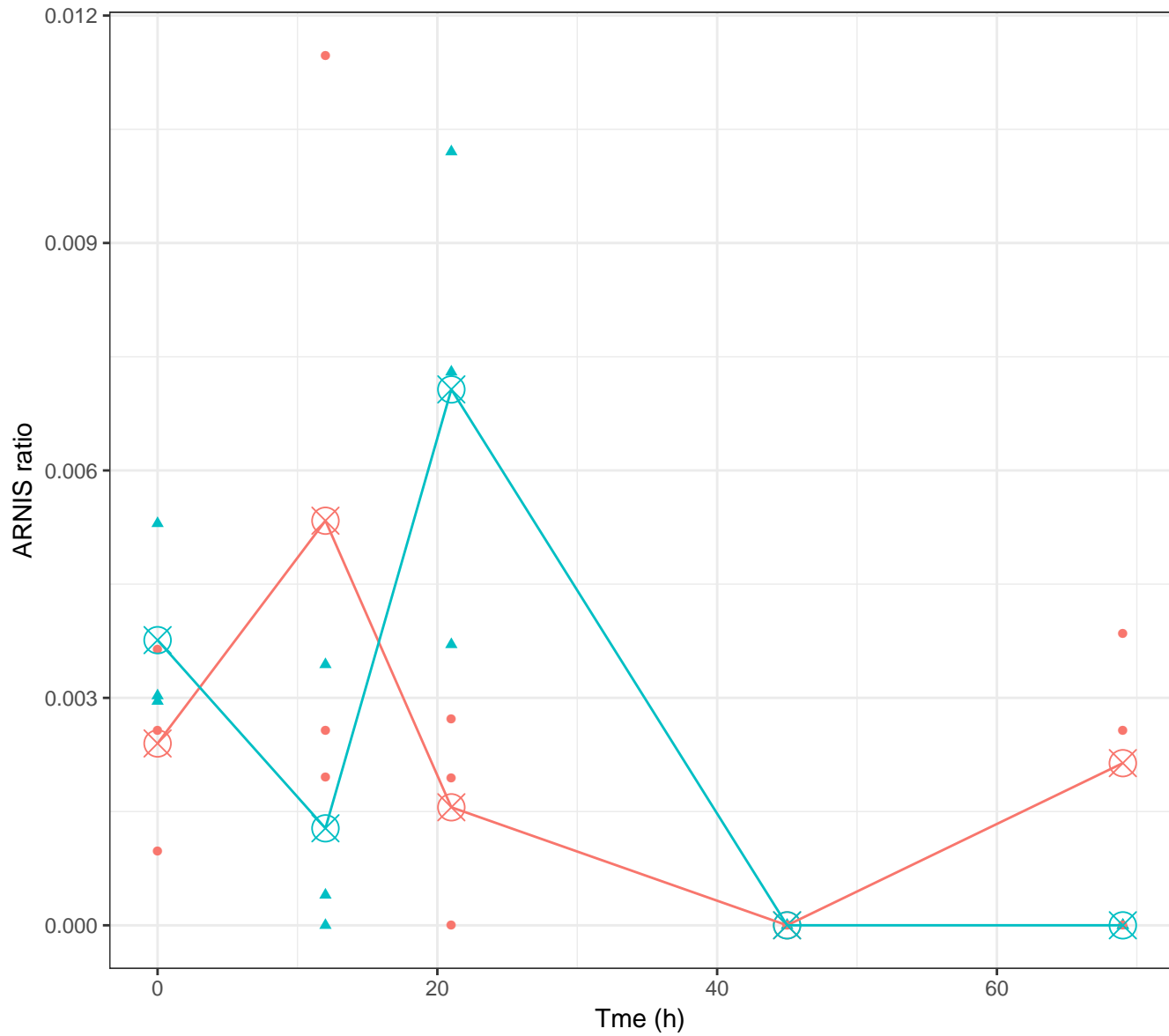


OTU.115_Betaproteobacteria_TRA3.20

Treatment  Control  Filtered-1micron

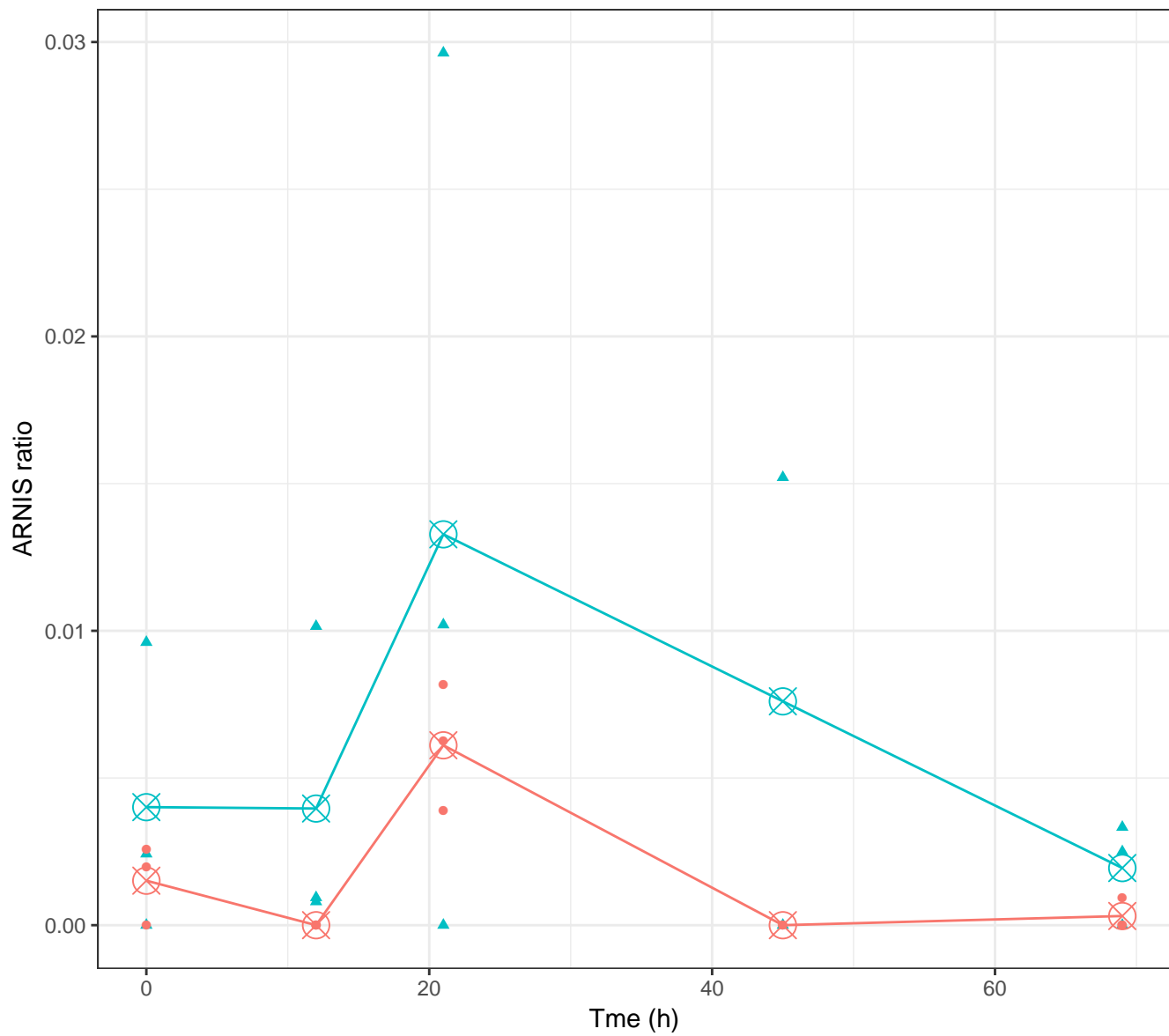
OTU.8113_Planctomycetes_Planctomycetaceae

Treatment Control Filtered-1micron



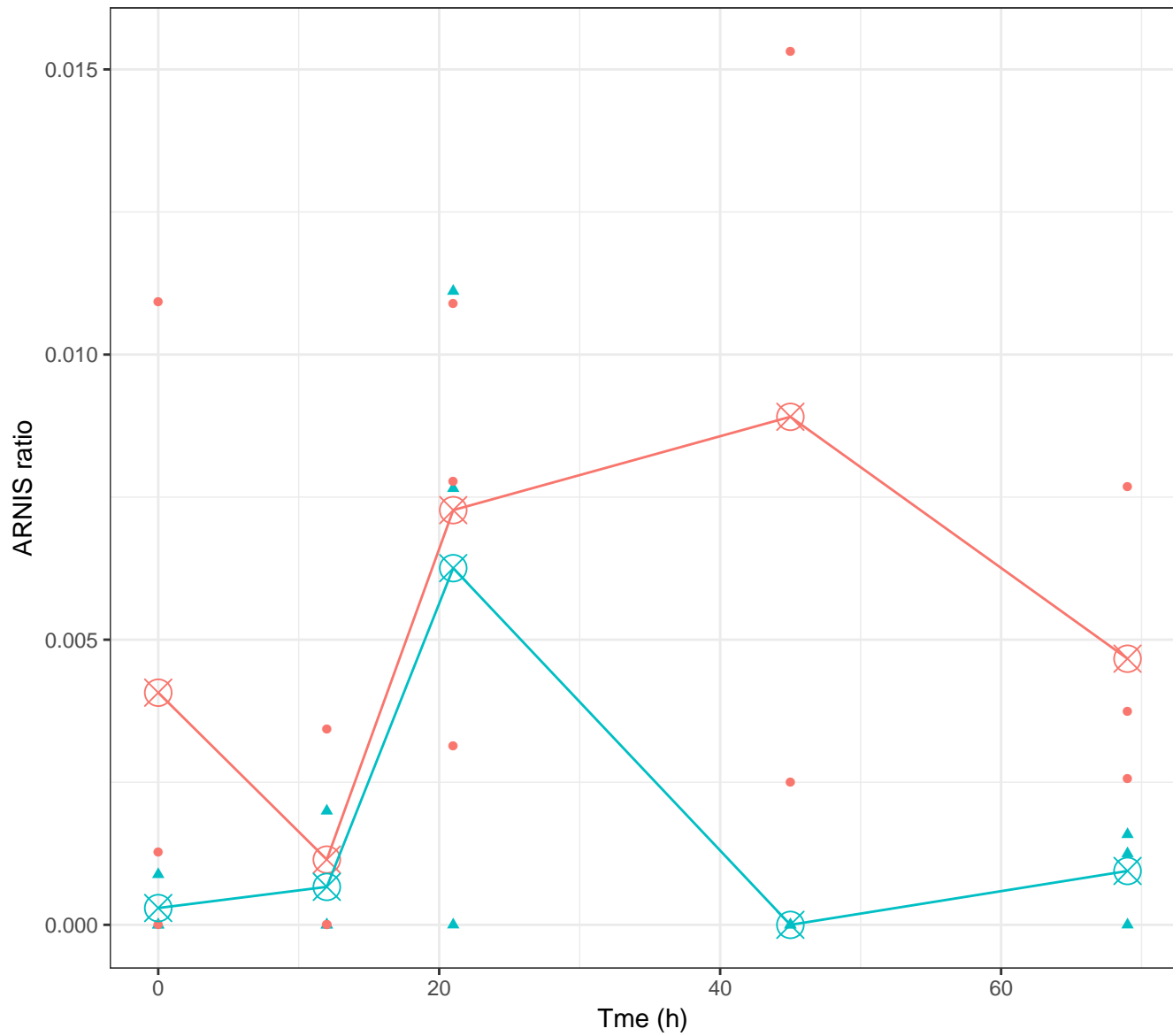
OTU.1913_Candidate_division_OD1

Treatment Control Filtered-1micron



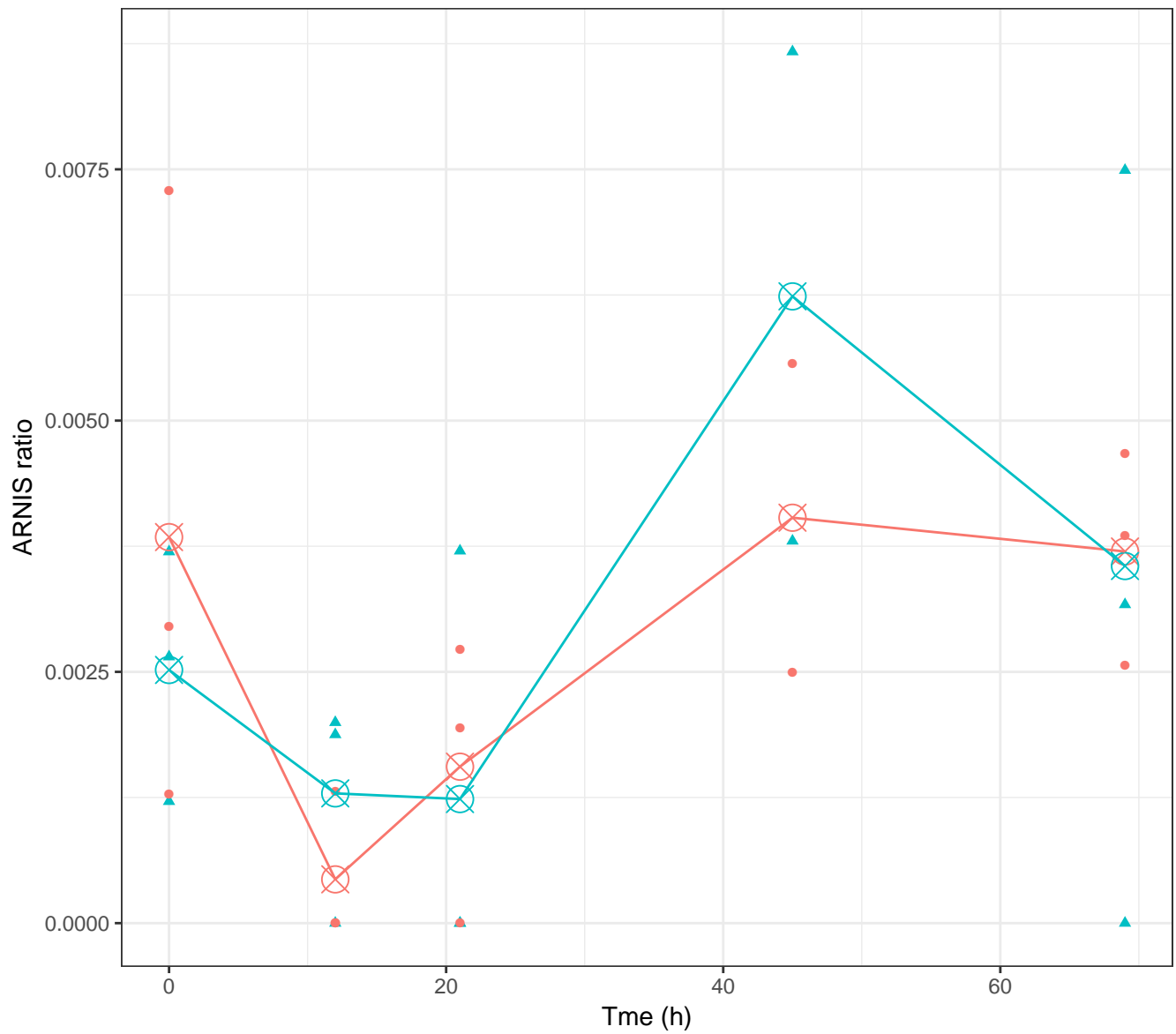
OTU.882_Bacteroidetes_Hydrotalea

Treatment ⊗ Control ⊗ Filtered-1micron



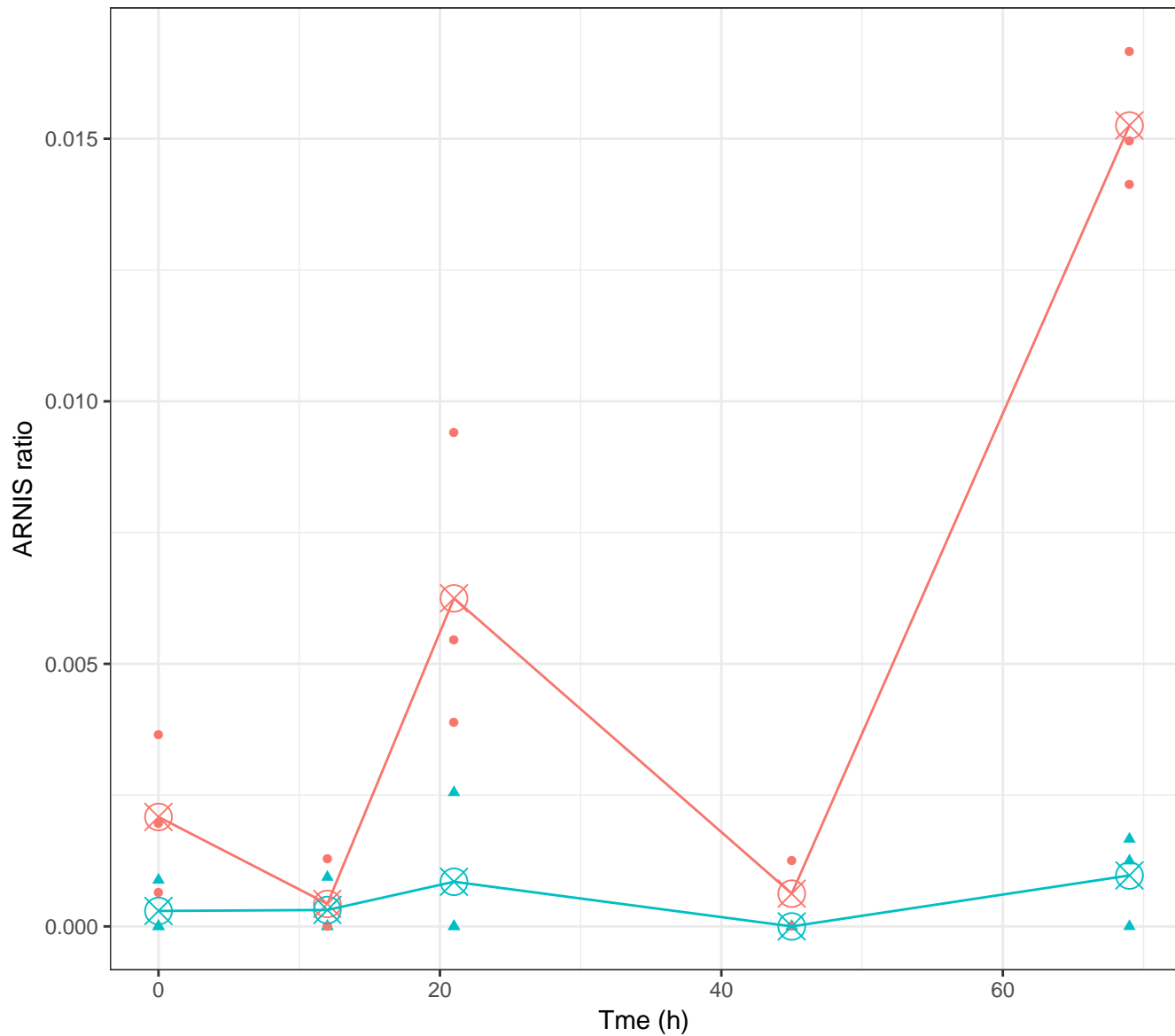
OTU.1172_Betaproteobacteria_TRA3.20

Treatment ⊗ Control ⊗ Filtered-1micron



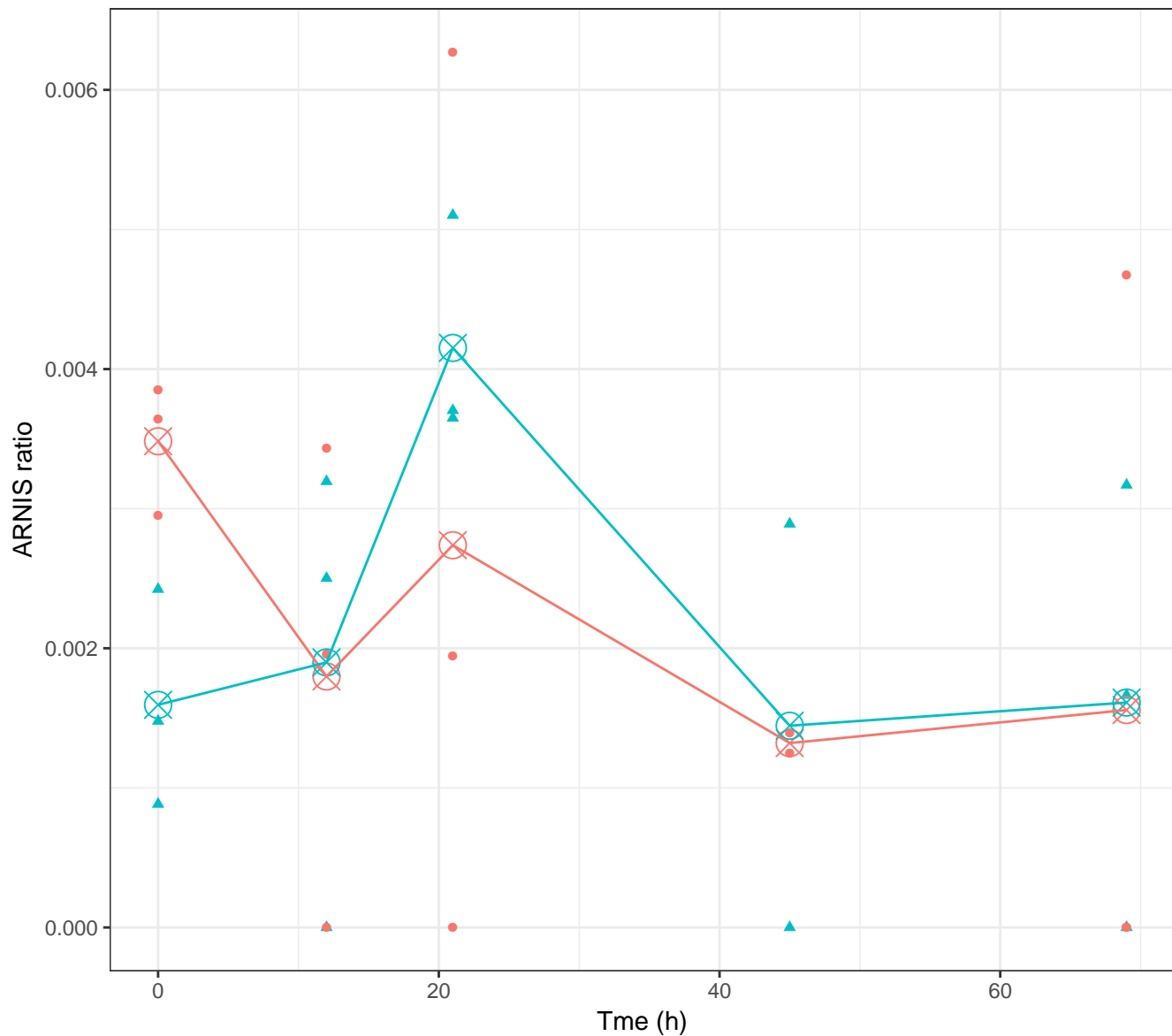
OTU.919_Chlamydiae_Candidatus_Rhabdochlamydia

Treatment Control Filtered-1micron



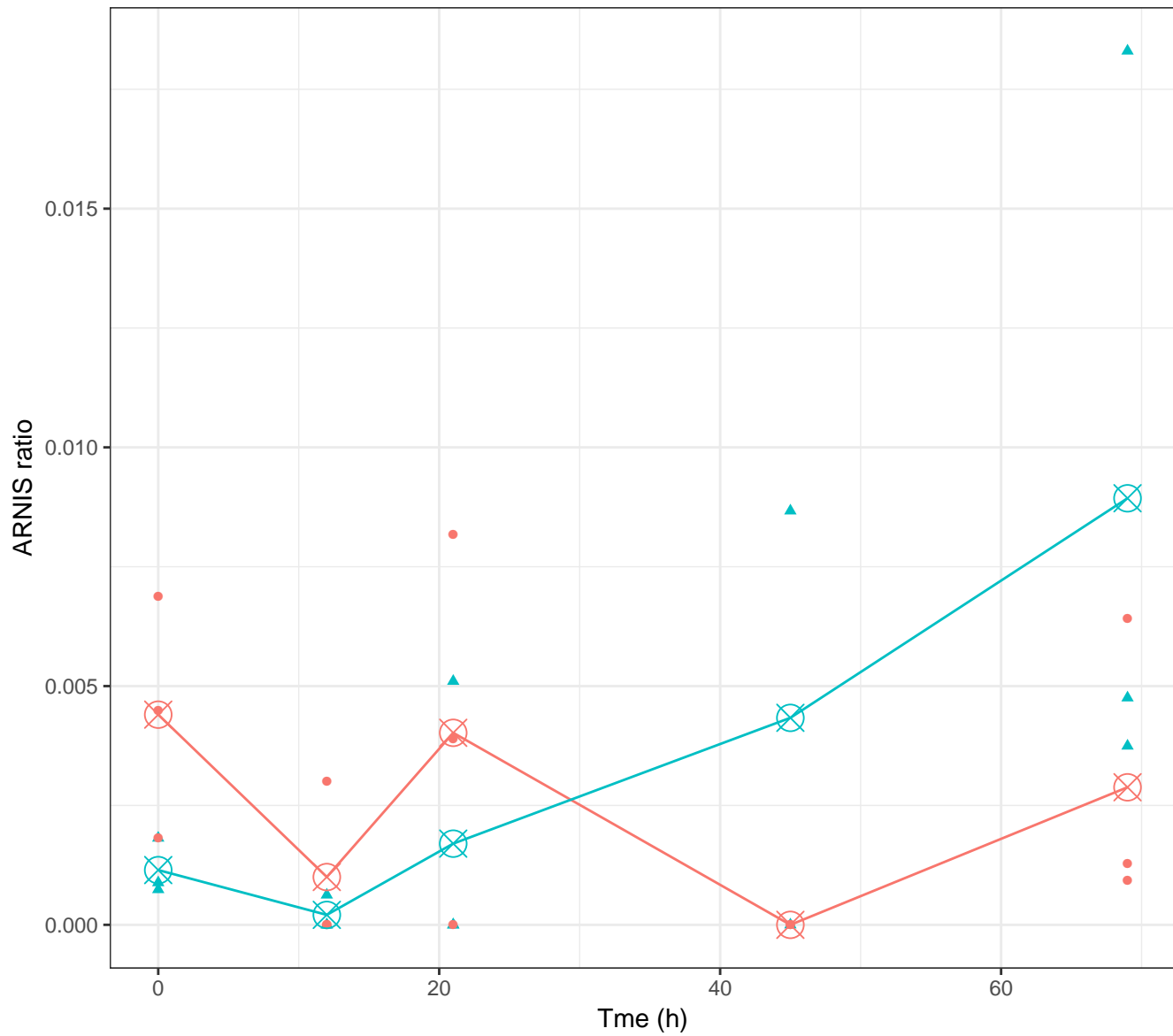
OTU.1053_Actinobacteria_Acidimicrobinae

Treatment ⊗ Control ⊗ Filtered-1micron



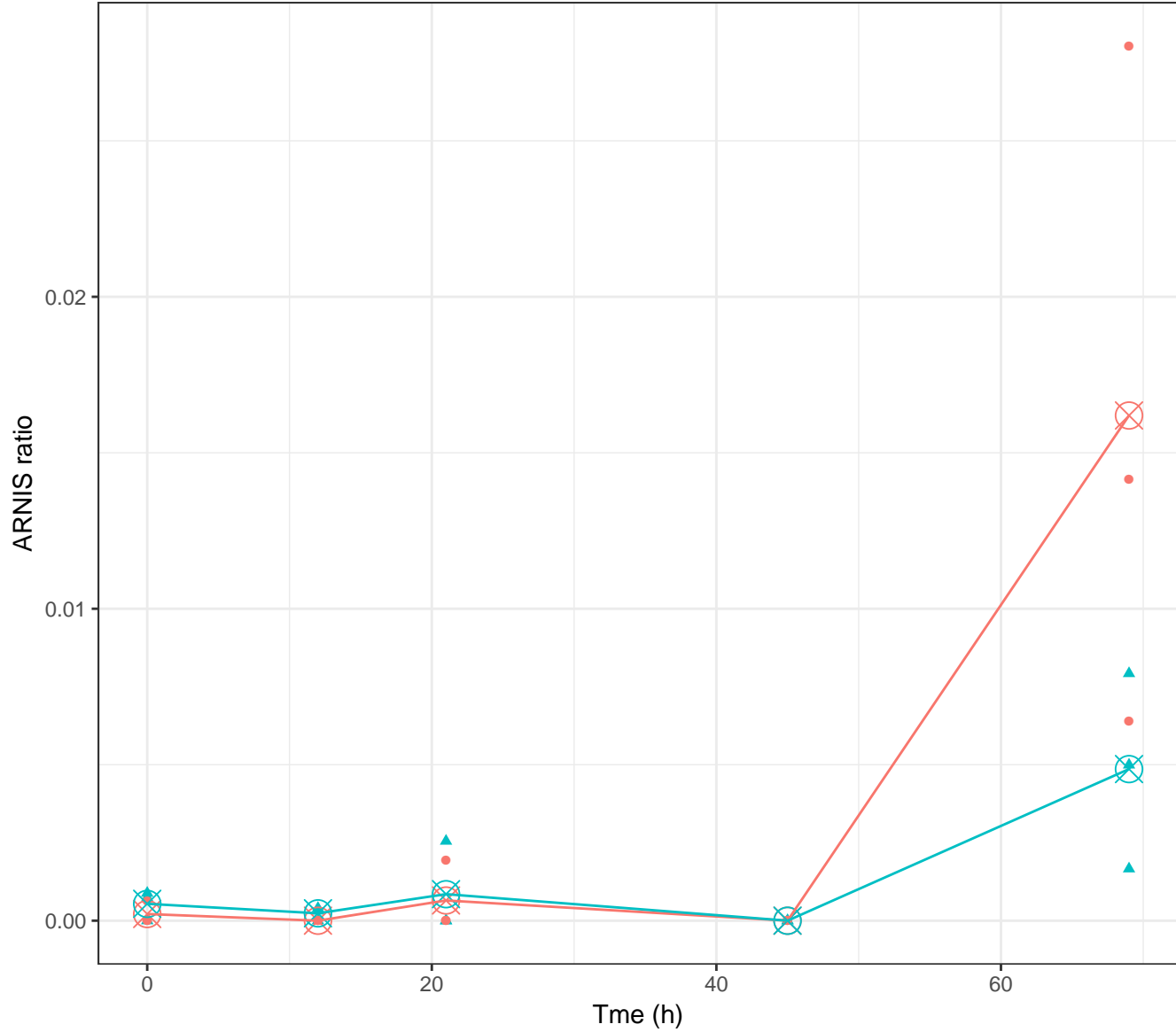
OTU.900_Deltaproteobacteria_Sandaracinaceae

Treatment ⊗ Control ⊗ Filtered-1micron



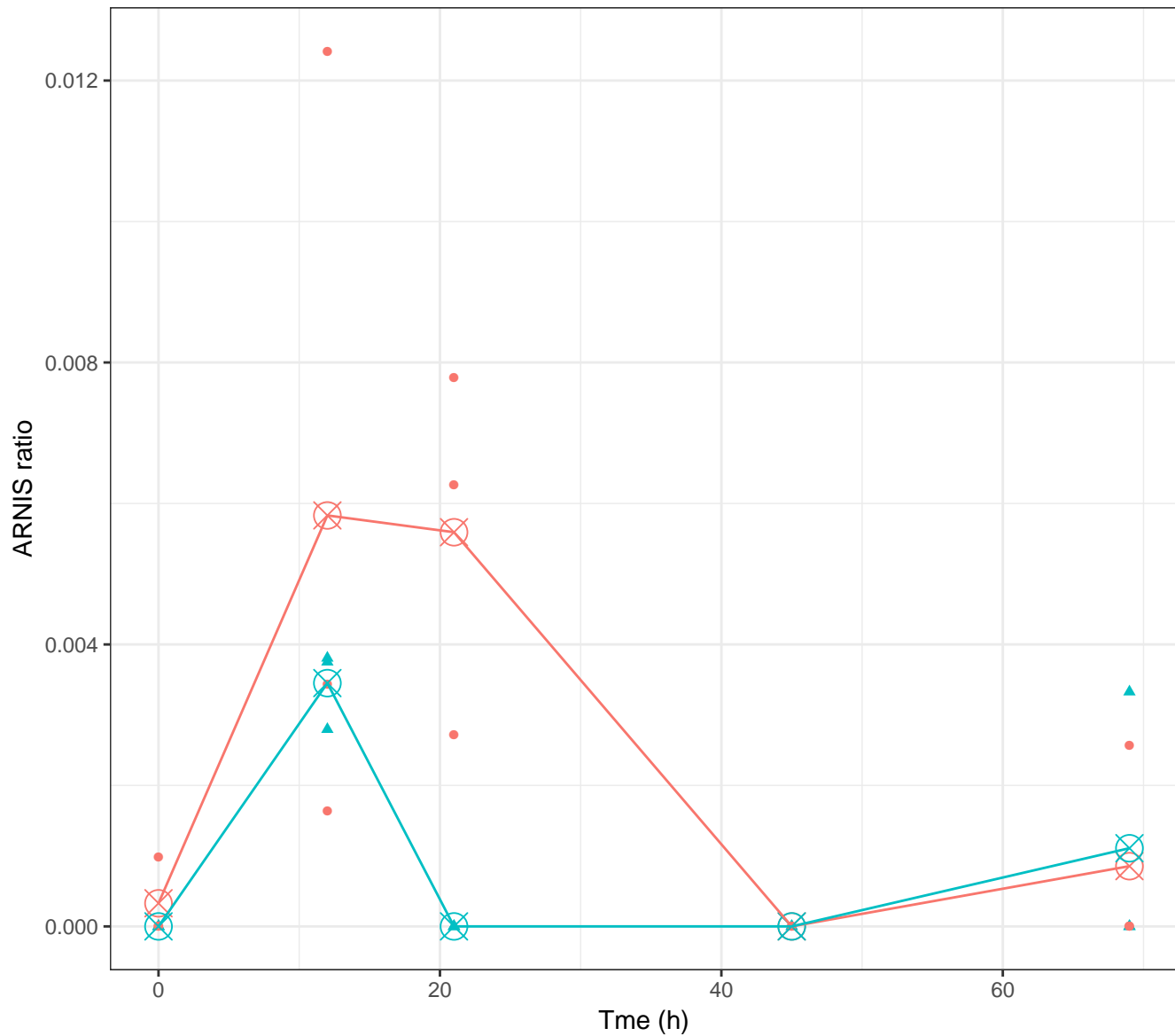
OTU.3060_Verrucomicrobia_FukuN18_freshwater_group

Treatment Control Filtered-1micron



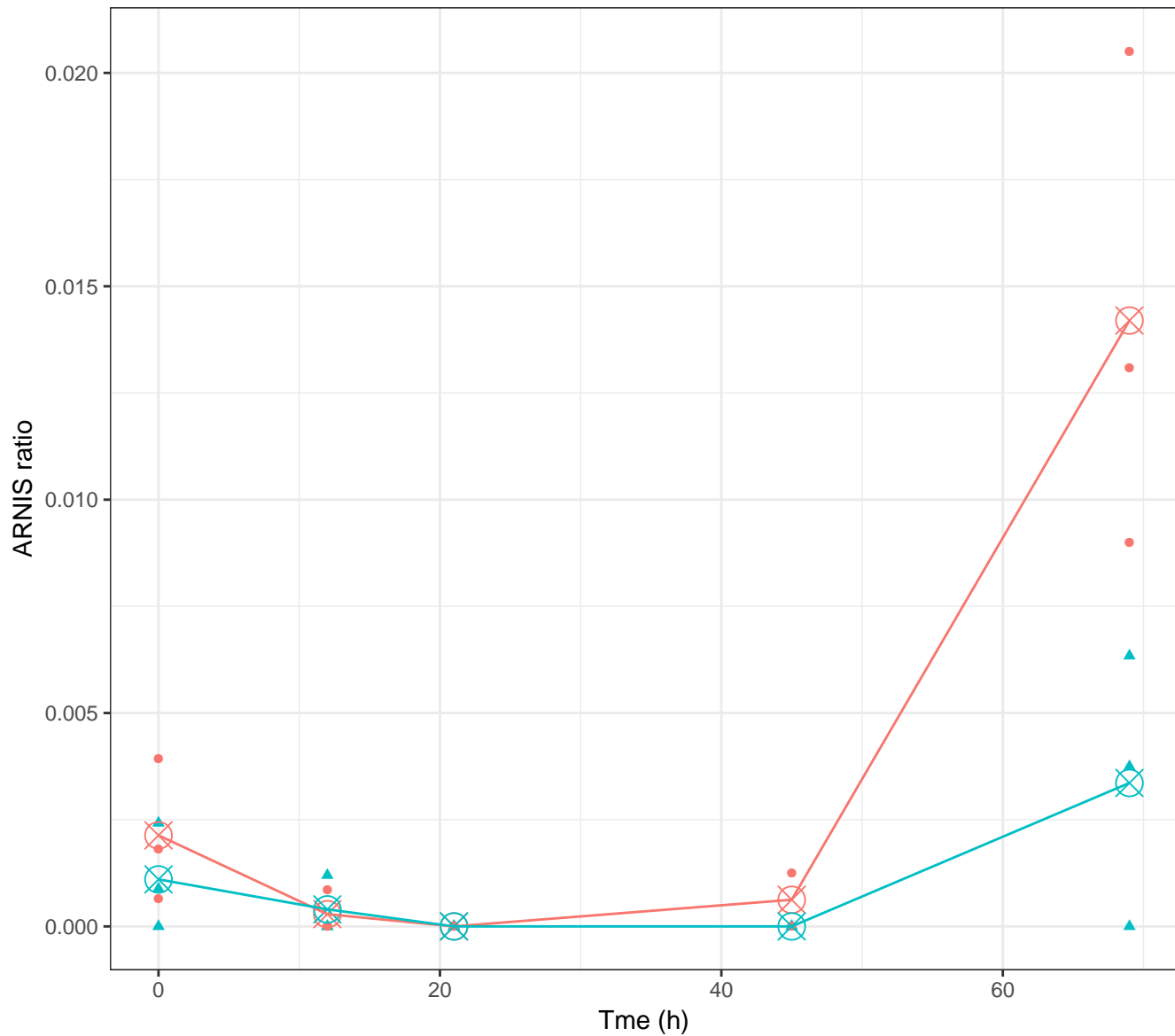
OTU.5172_Alphaproteobacteria_Rhodobacter

Treatment ⊗ Control ⊗ Filtered-1micron



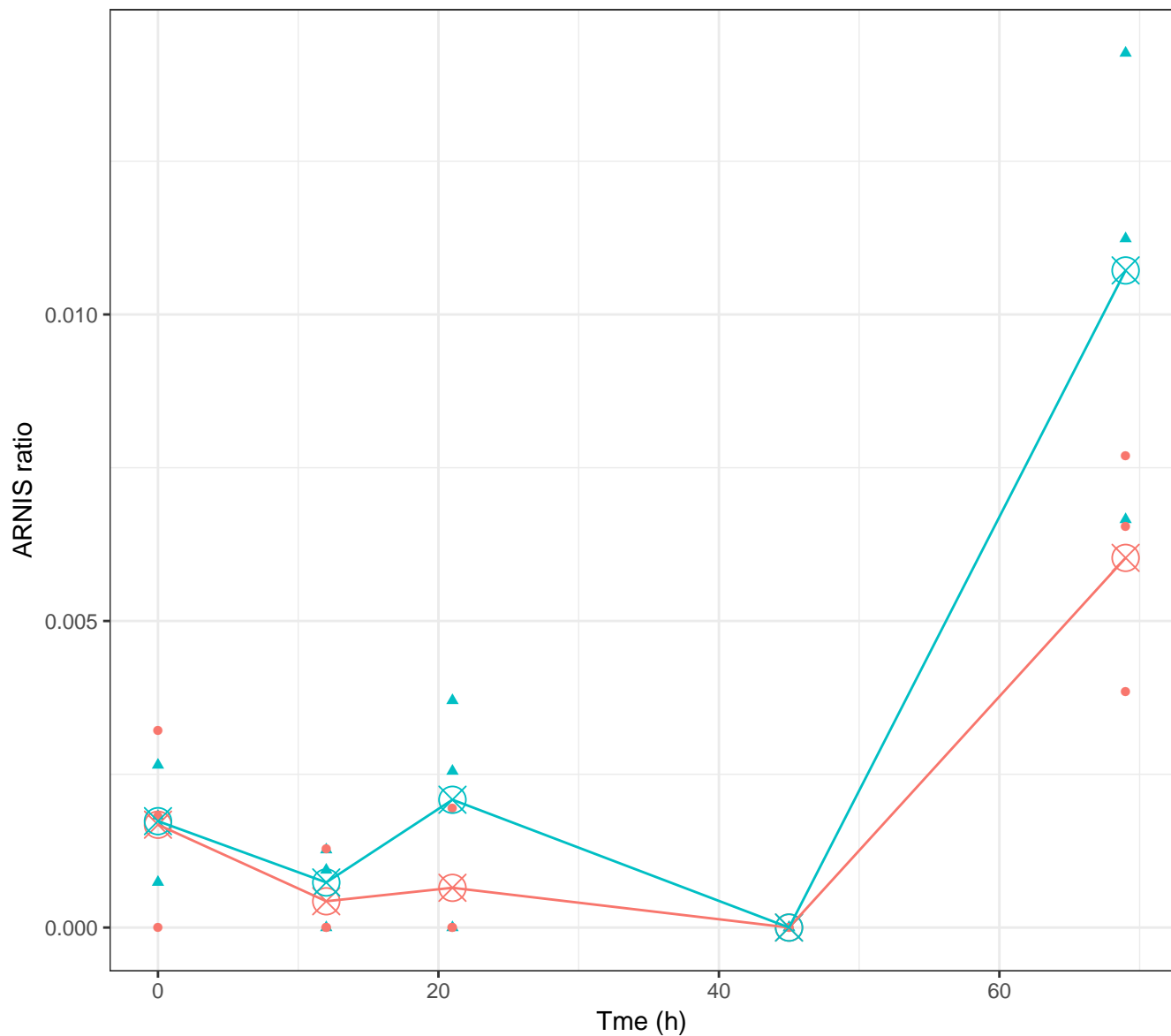
OTU.199_Betaproteobacteria_Aquabacterium

Treatment Control Filtered-1micron



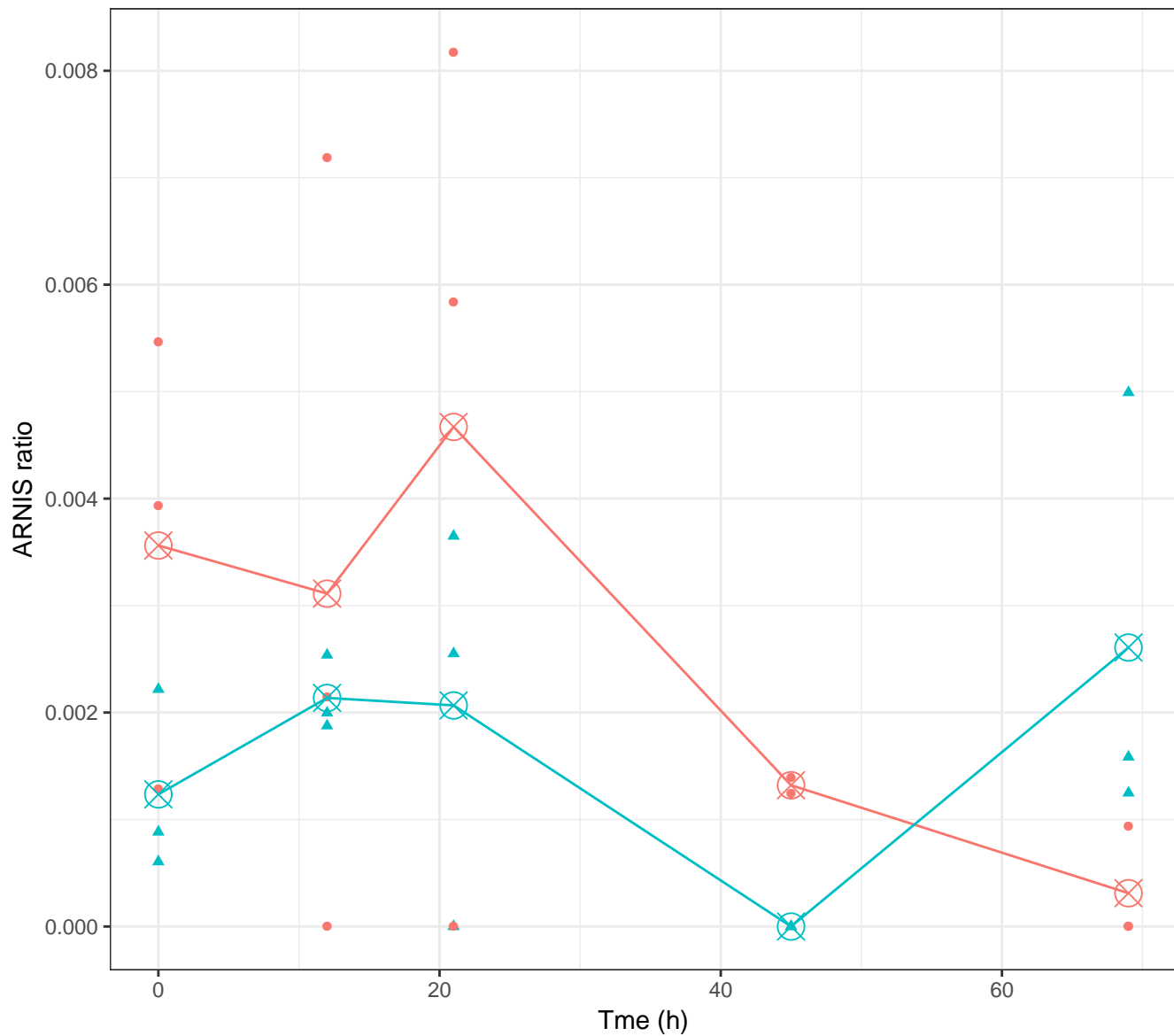
OTU.3756_Actinobacteria_clade_acl.A7

Treatment ⊗ Control ⊗ Filtered-1micron



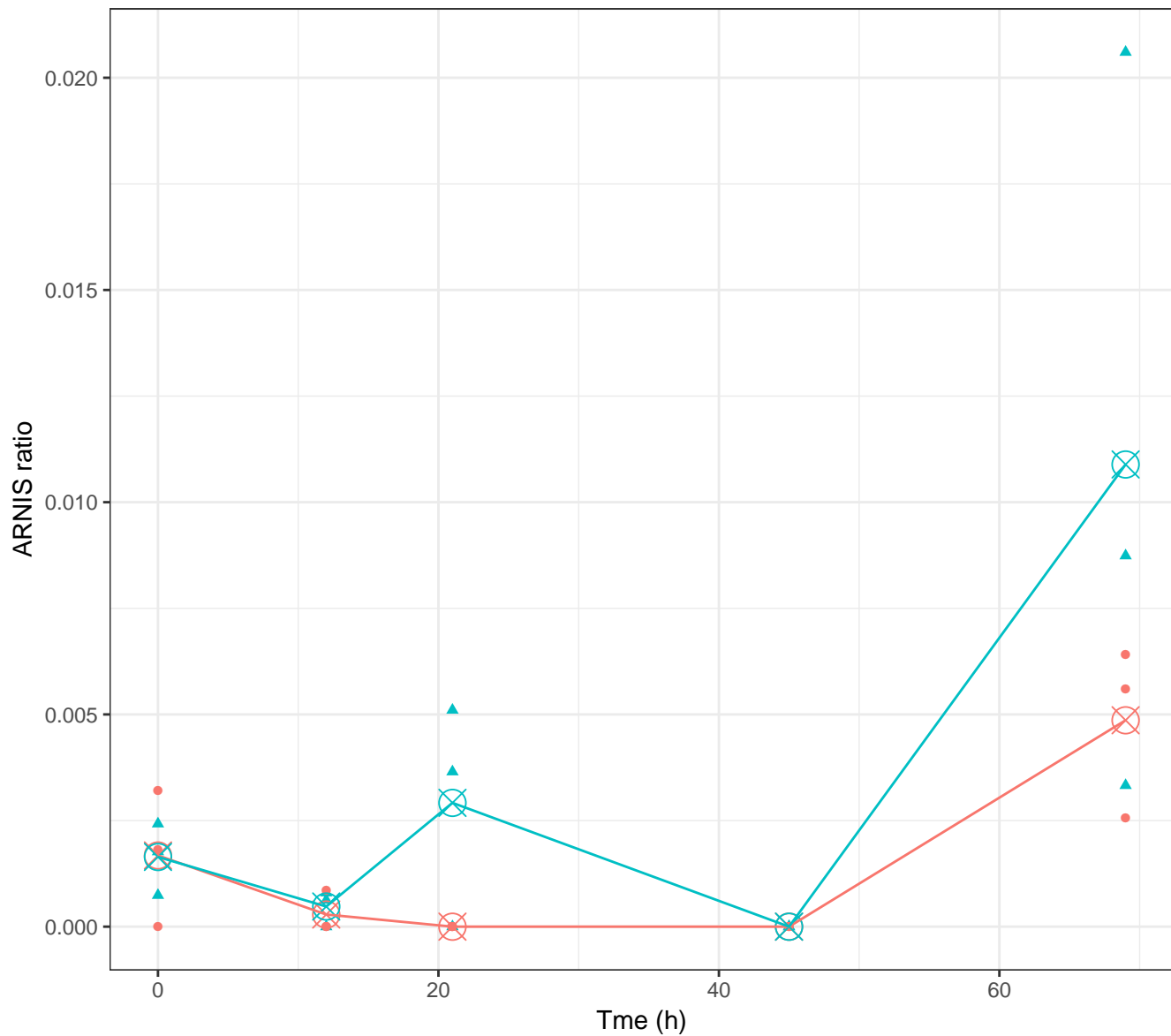
OTU.1498_Alphaproteobacteria_Methylosinus

Treatment ⊗ Control ⊗ Filtered-1micron



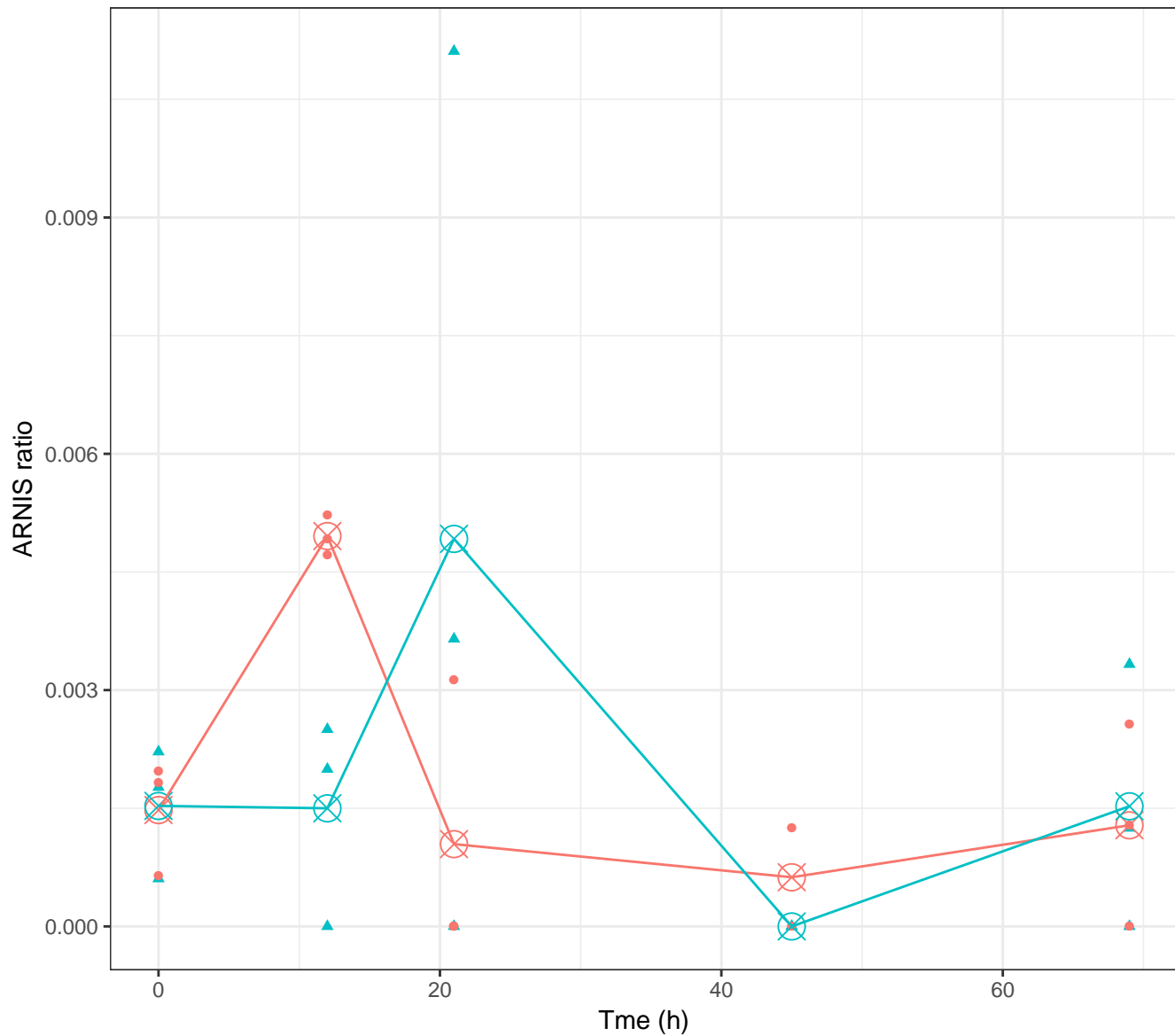
OTU.268_Actinobacteria_clade_acl.A6

Treatment ⊗ Control ⊗ Filtered-1micron





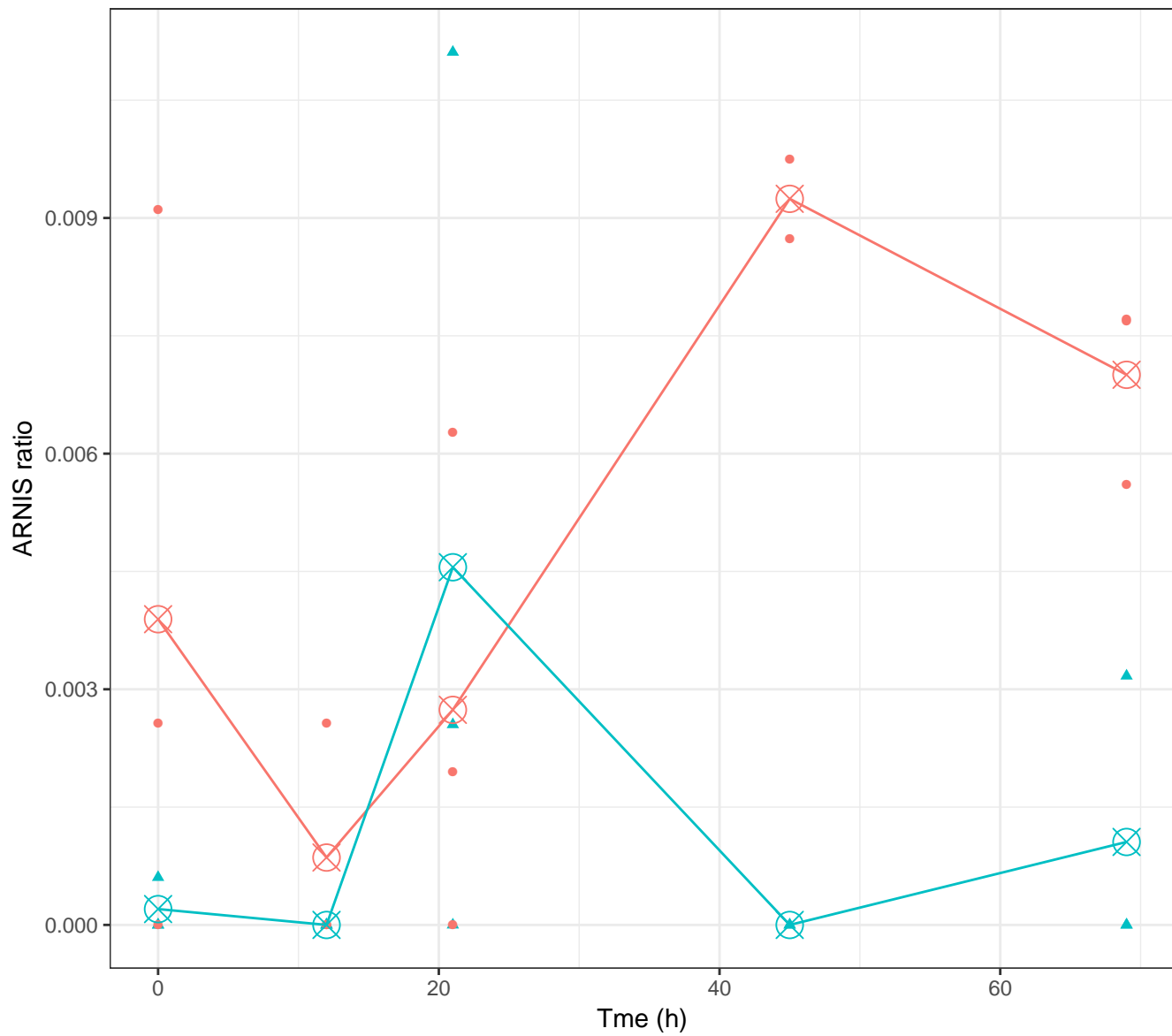
OTU.535_Actinobacteria_Mycobacterium

Treatment ⊗ Control ⊗ Filtered-1micron



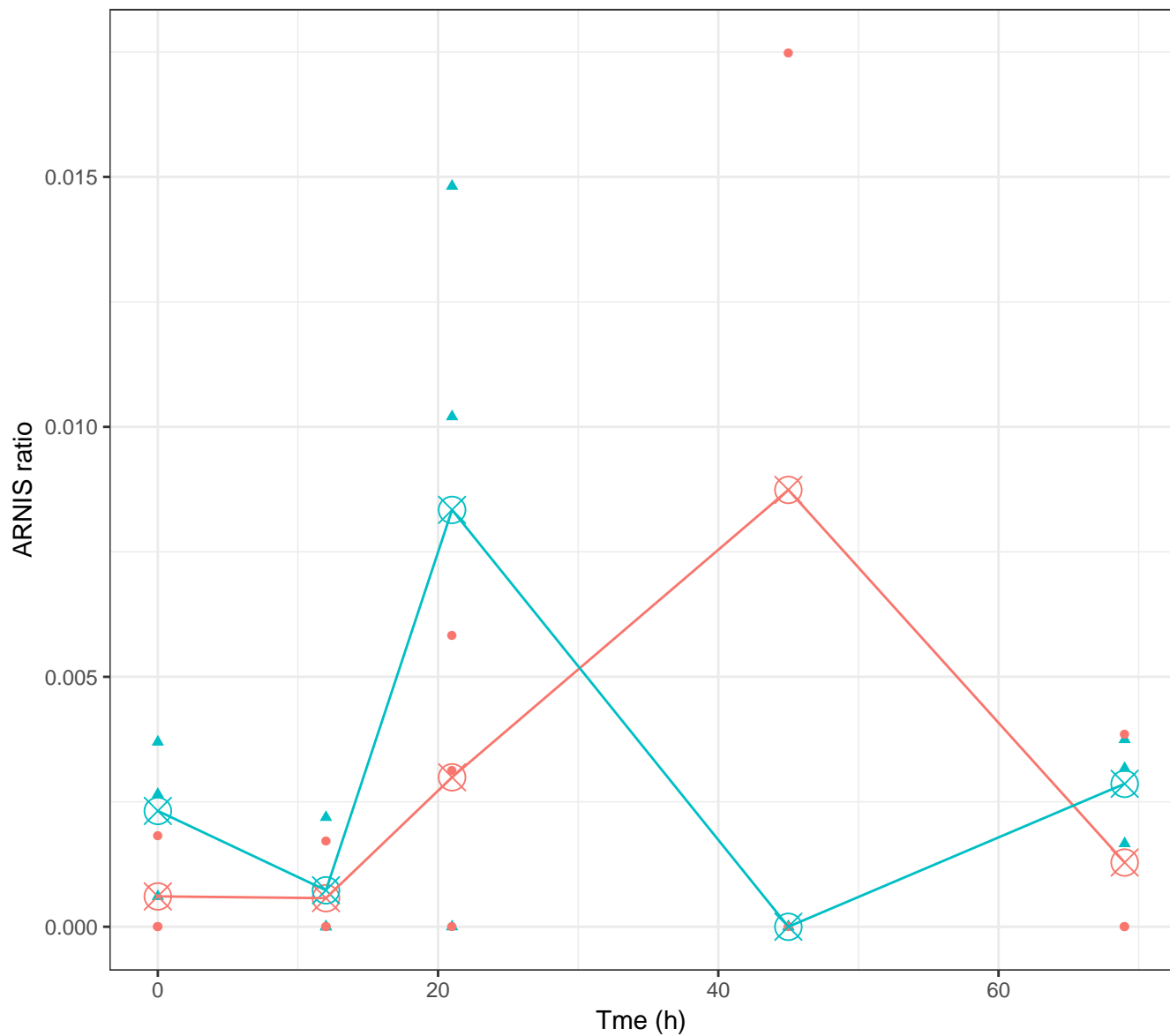
OTU.1577_Bacteroidetes_Chitinophagaceae

Treatment  Control  Filtered-1micron



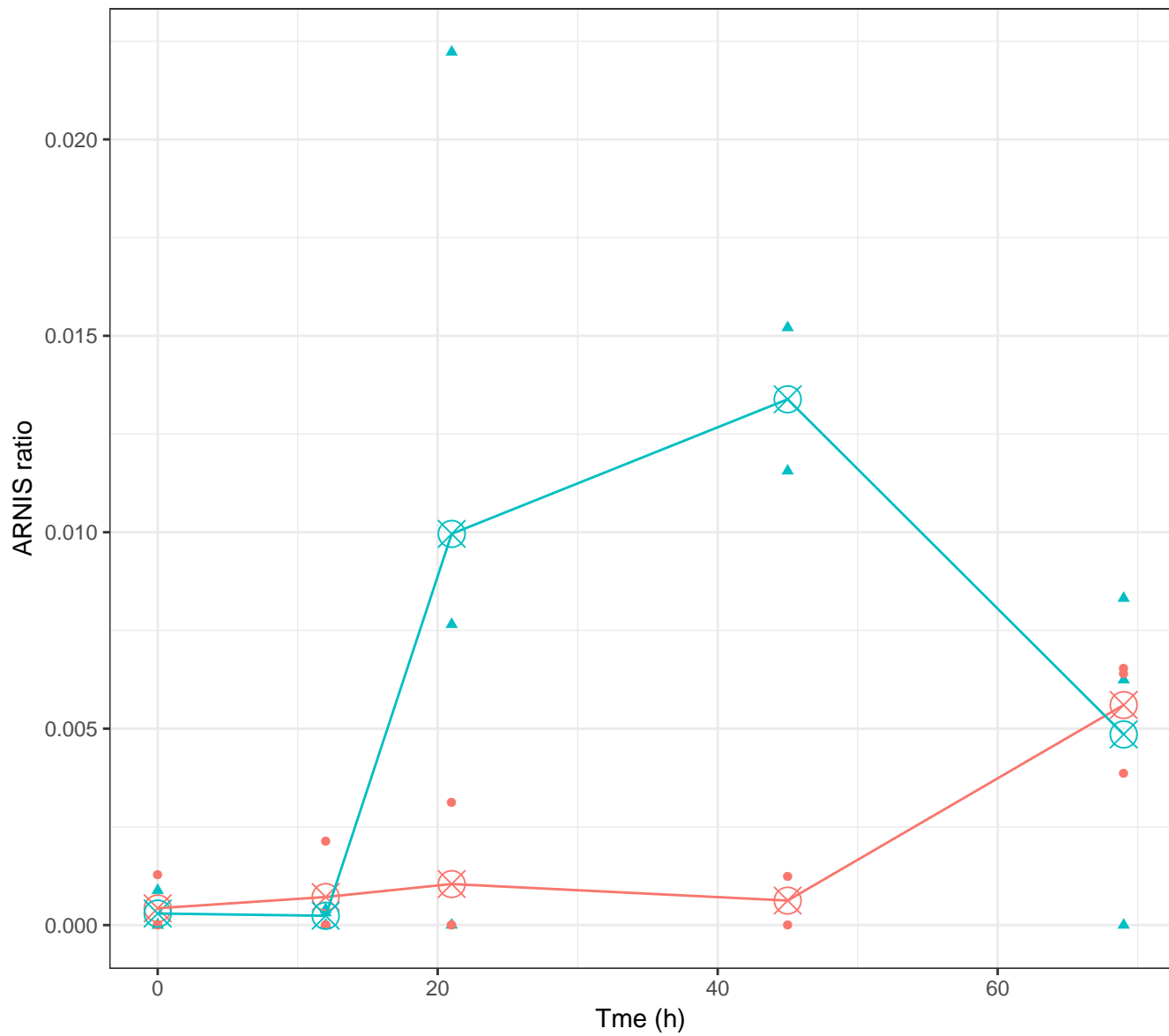
OTU.1168_Chloroflexi

Treatment ⊗ Control ⊗ Filtered-1micron



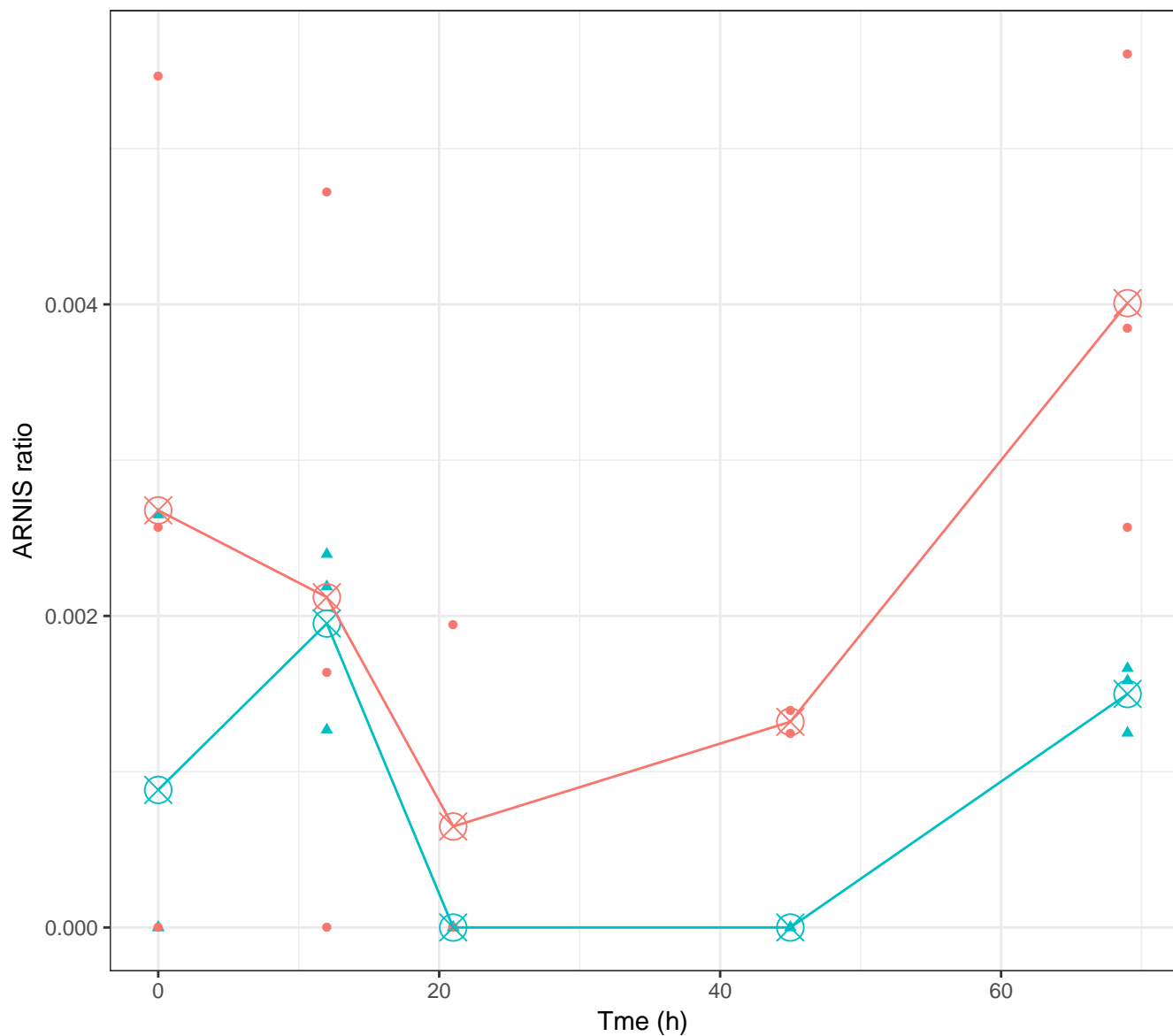


OTU.189_Bacteroidetes_Emticicia

Treatment ⊗ Control ⊗ Filtered-1micron

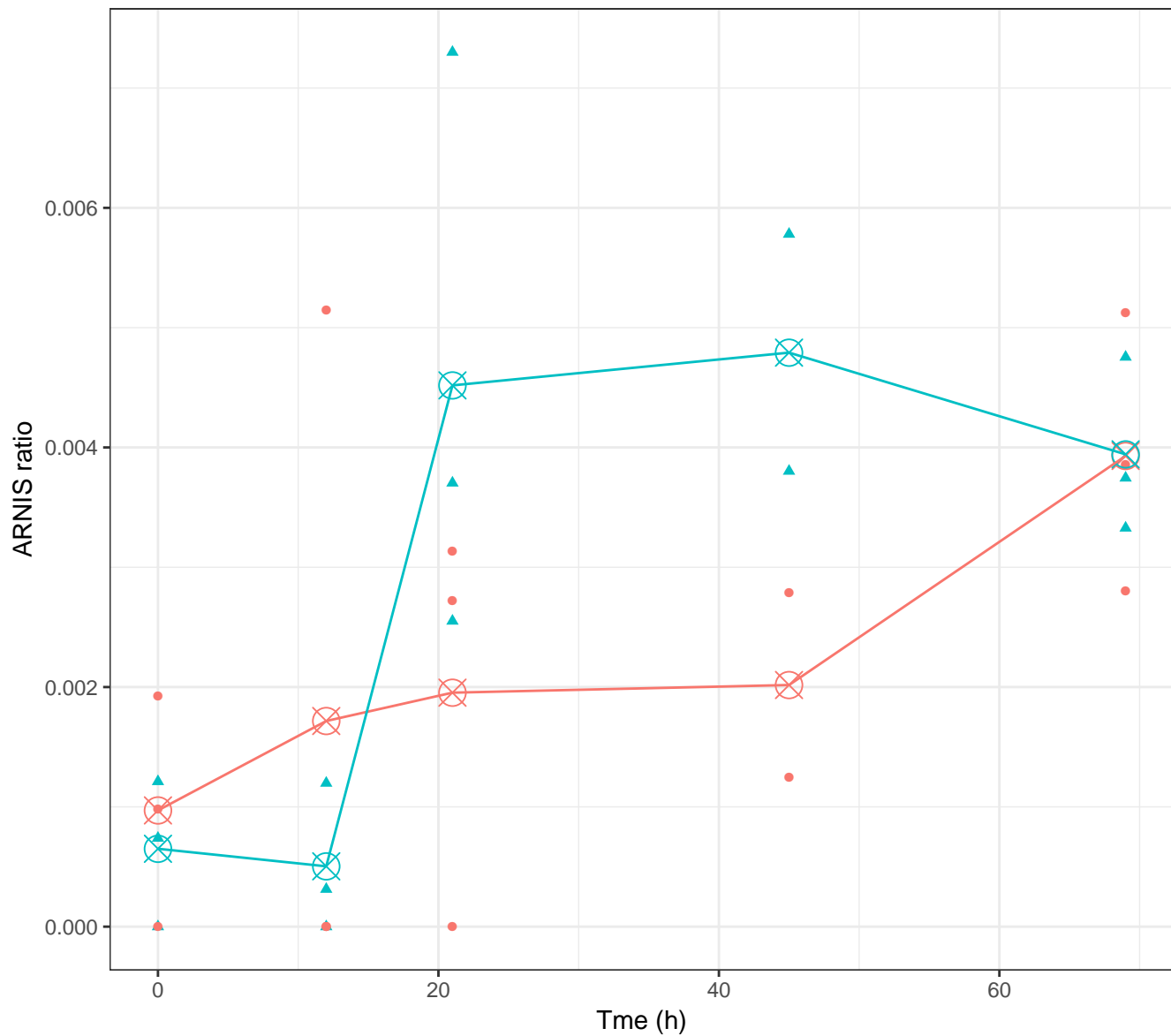


OTU.79_Actinobacteria_CL500.29_marine_group_freshwater_clade_acIV.B

Treatment  Control  Filtered-1micron

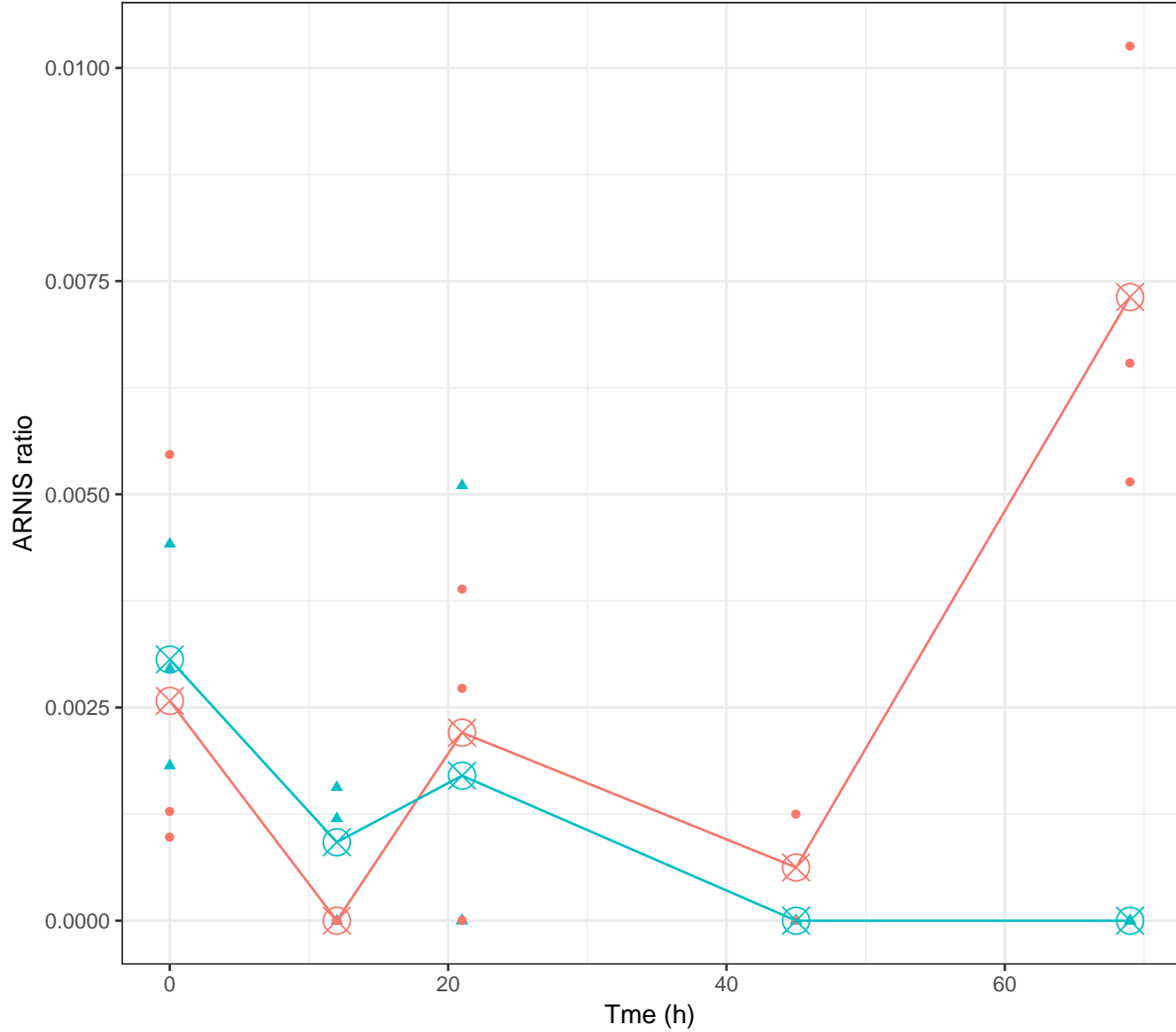
OTU.1059_Armatimonadetes

Treatment ⊗ Control ⊗ Filtered-1micron



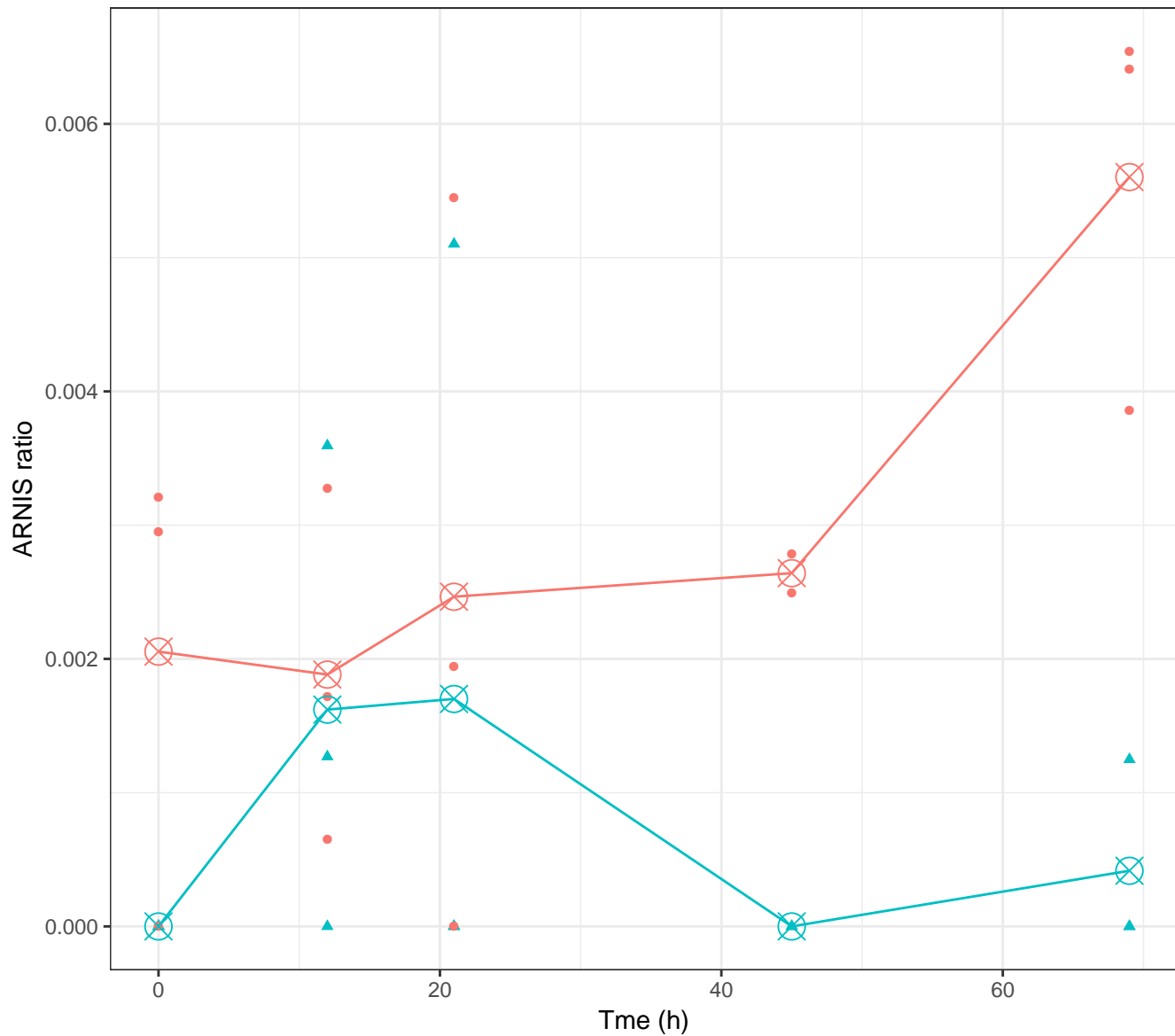
OTU.288_Alphaproteobacteria_Meganema

Treatment ⊗ Control ⊗ Filtered-1micron



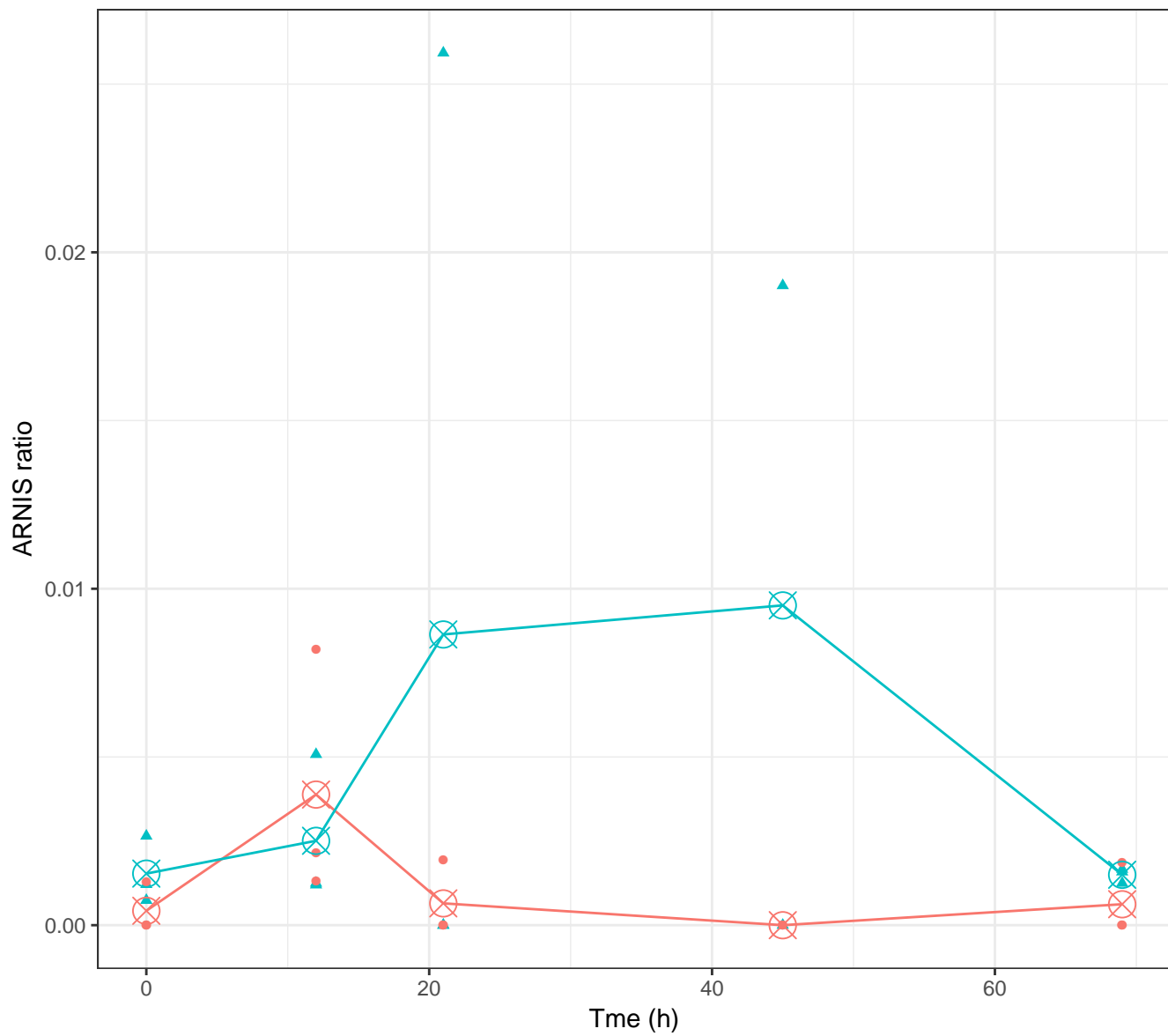
OTU.144_Bacteroidetes_Sphingobacteriia_LiUU.11.161

Treatment ⊗ Control ⊗ Filtered-1micron



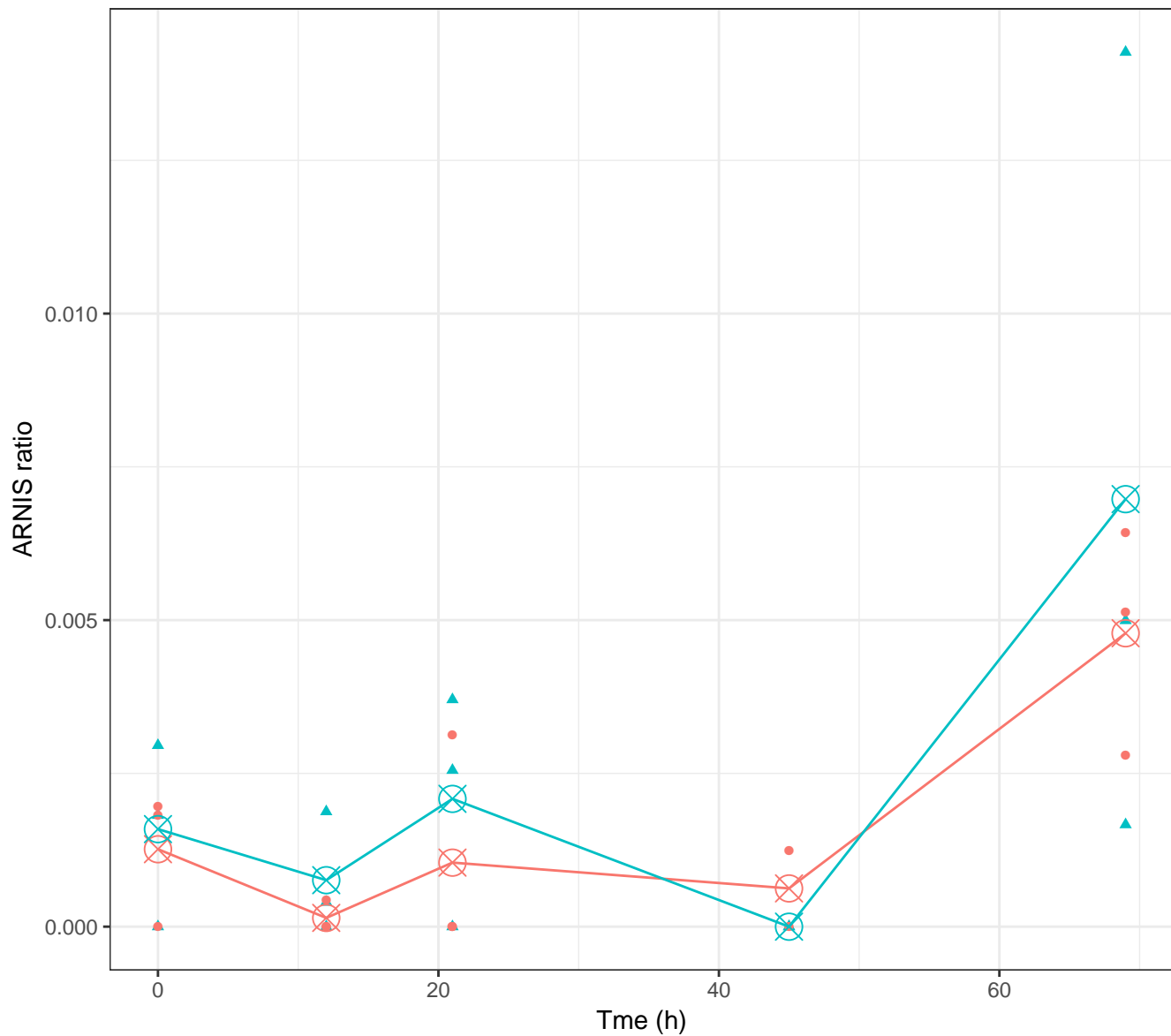
OTU.3698_Actinobacteria_clade_acl.A1

Treatment Control Filtered-1micron



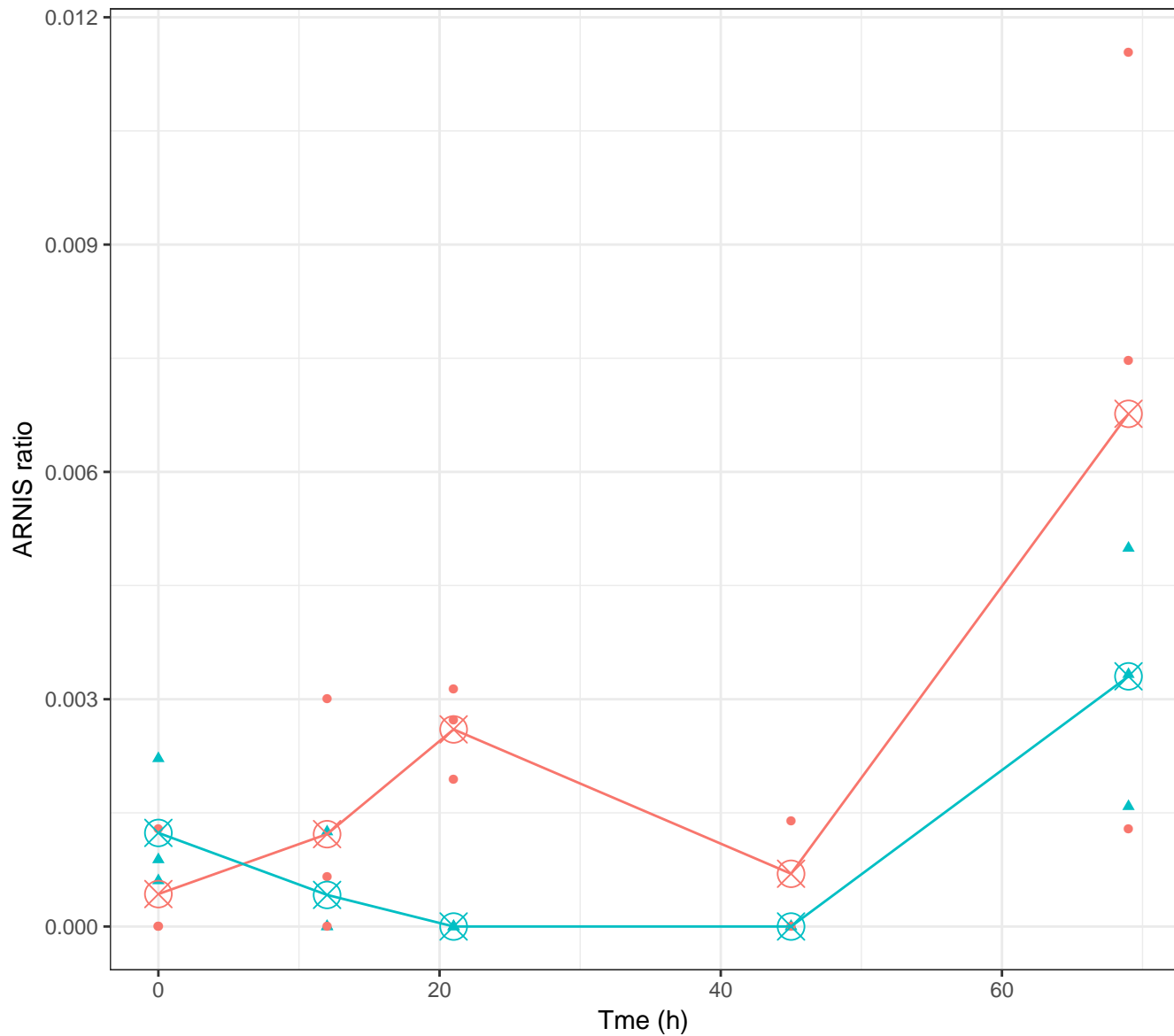
OTU.305_Actinobacteria_clade_acl.B2.4

Treatment ⊗ Control ⊗ Filtered-1micron





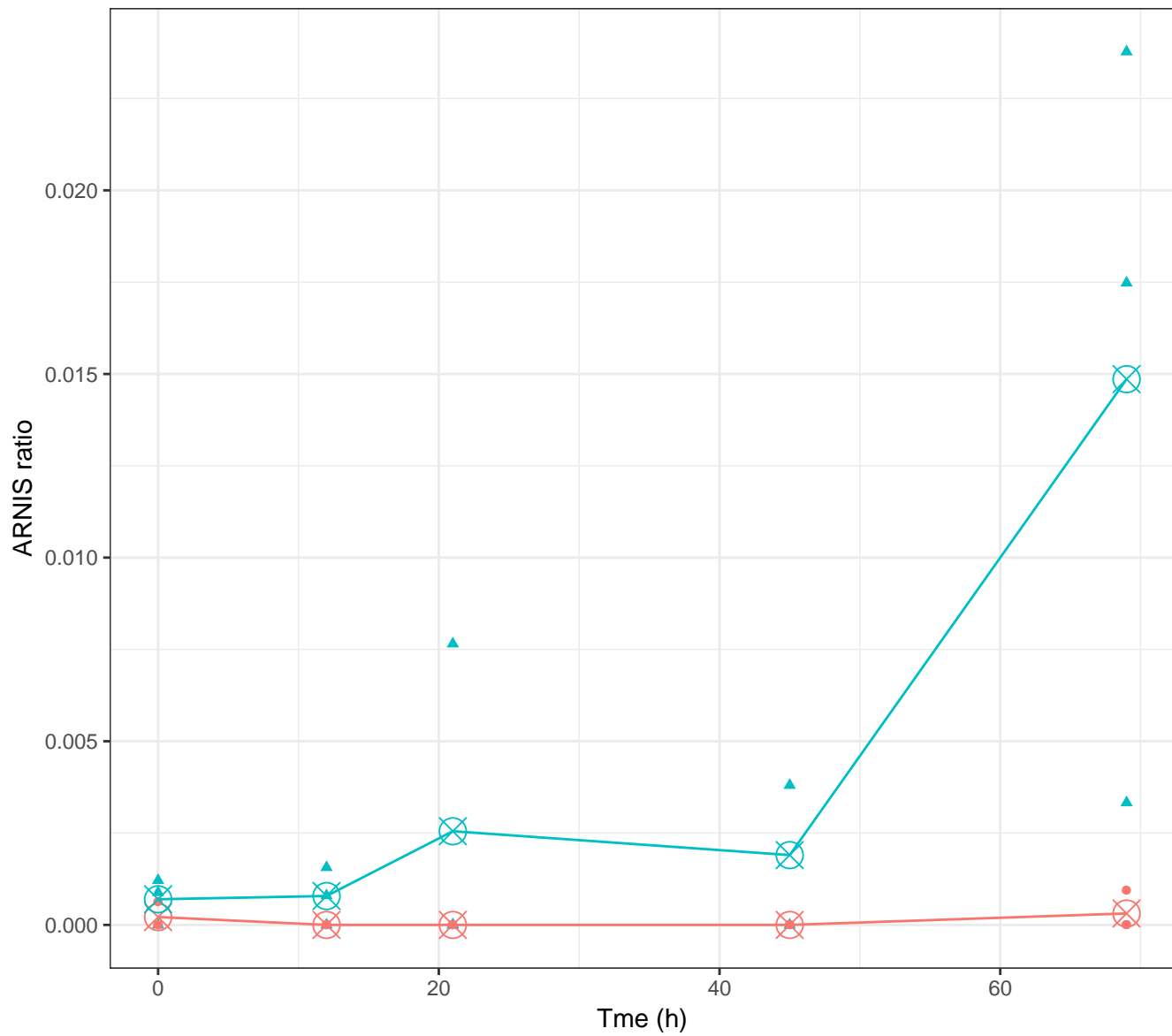
OTU.978_Alphaproteobacteria_Novosphingobium

Treatment ⊗ Control ⊗ Filtered-1micron



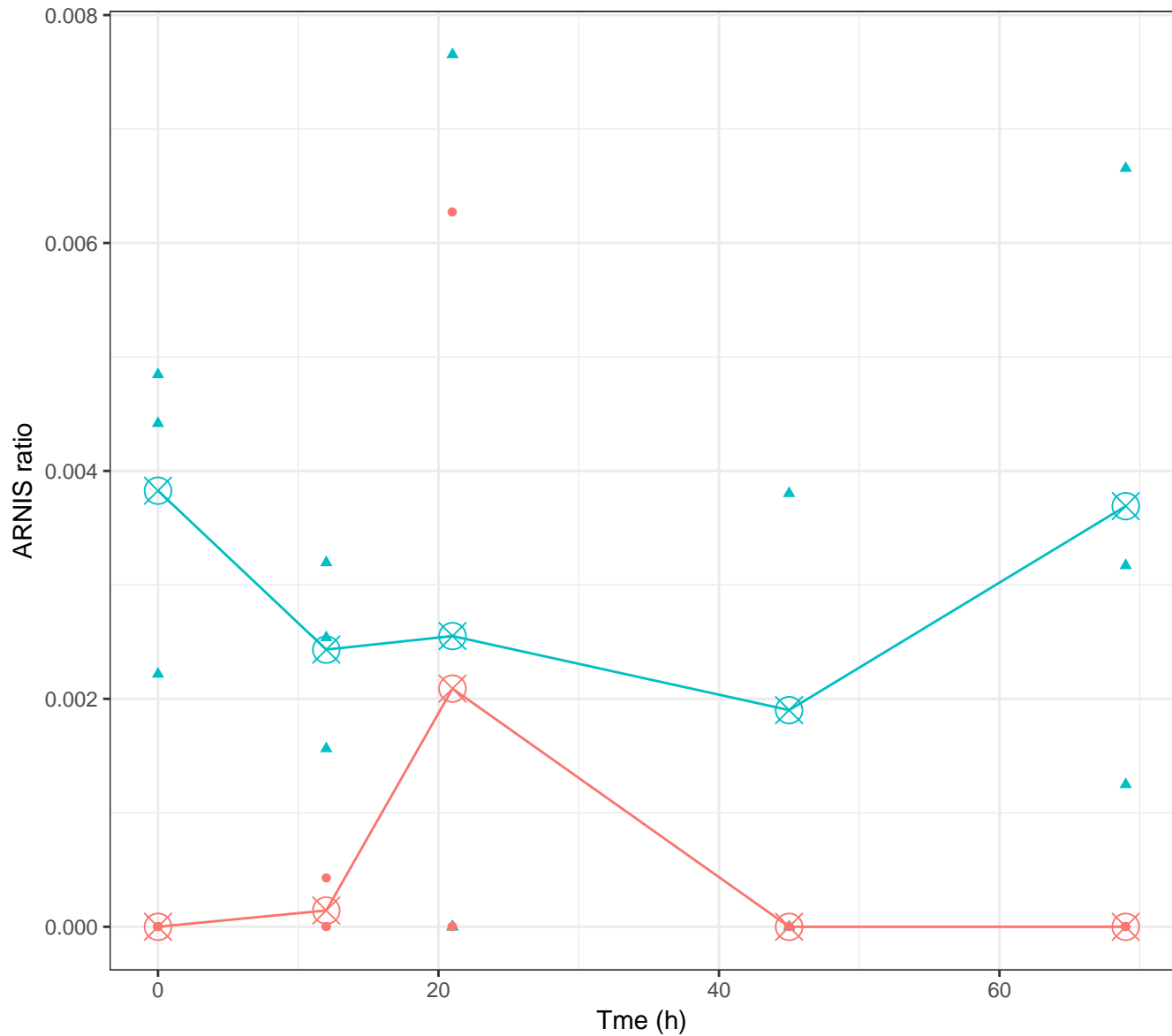
OTU.2951_Betaproteobacteria_Variovorax

Treatment  Control  Filtered-1micron



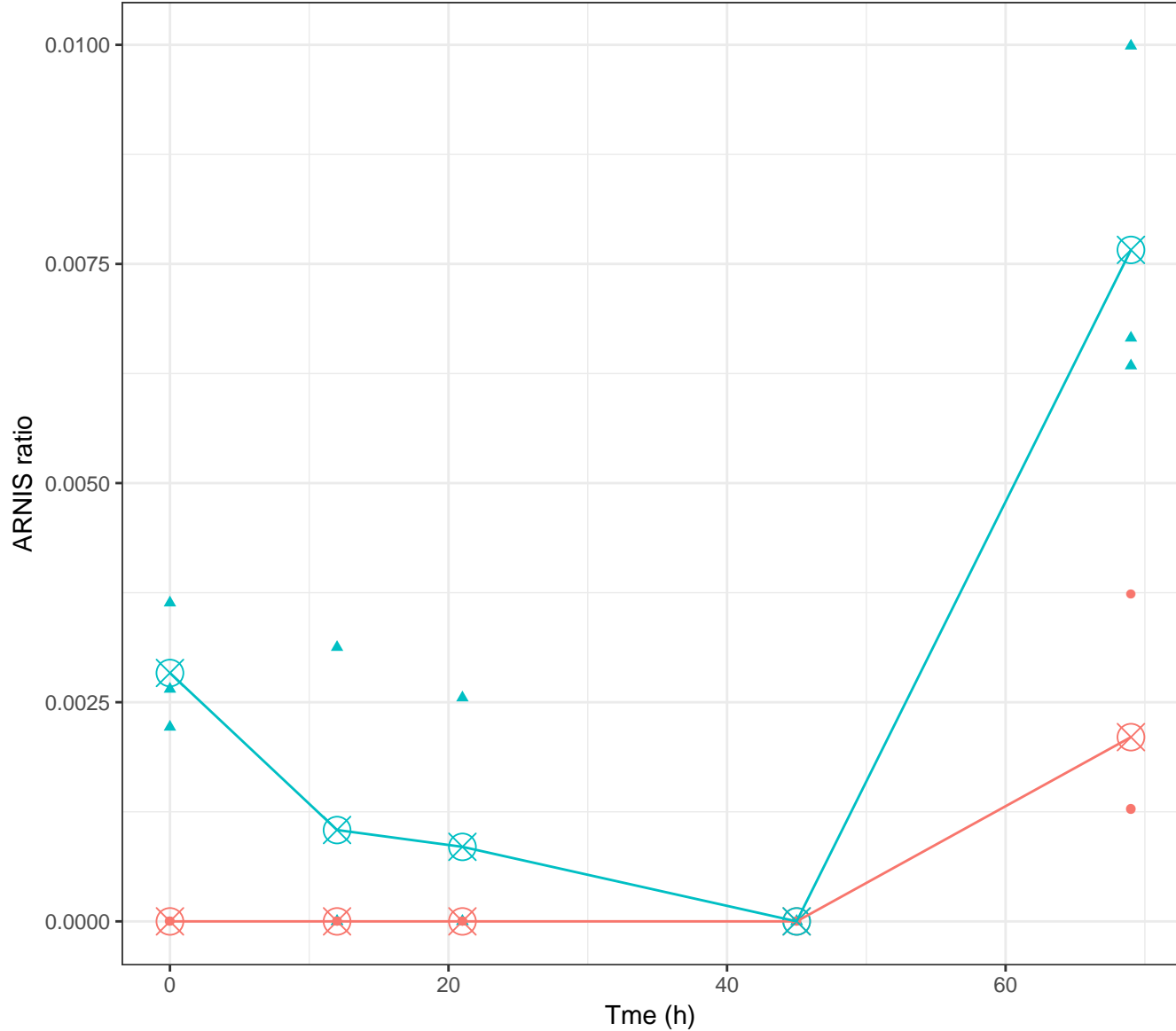


OTU.2639_Betaproteobacteria_Polynucleobacter



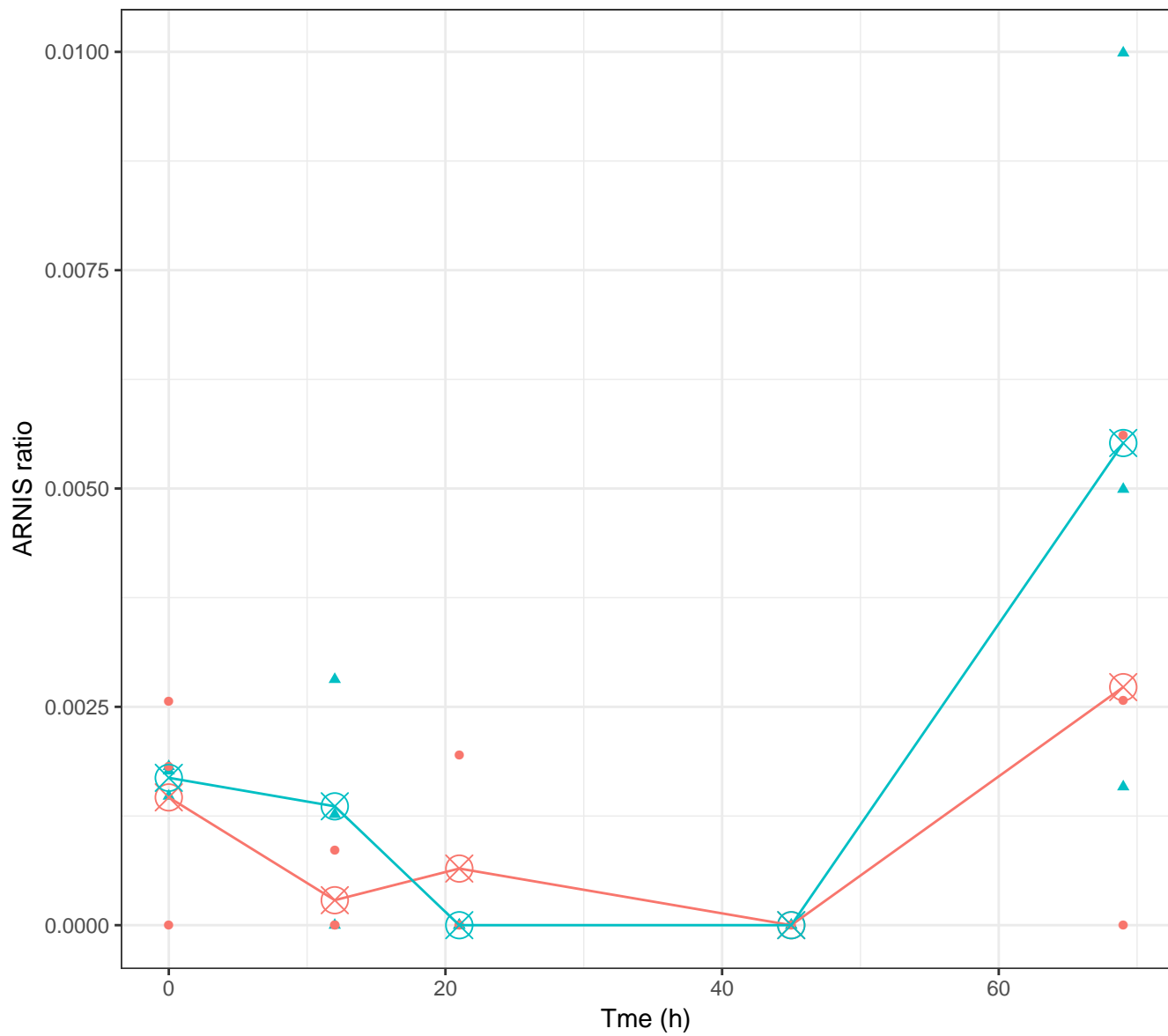
Treatment ⊗ Control ⊗ Filtered-1micron



OTU.591_Betaproteobacteria_Methylopumilus_planktonicus_LD28

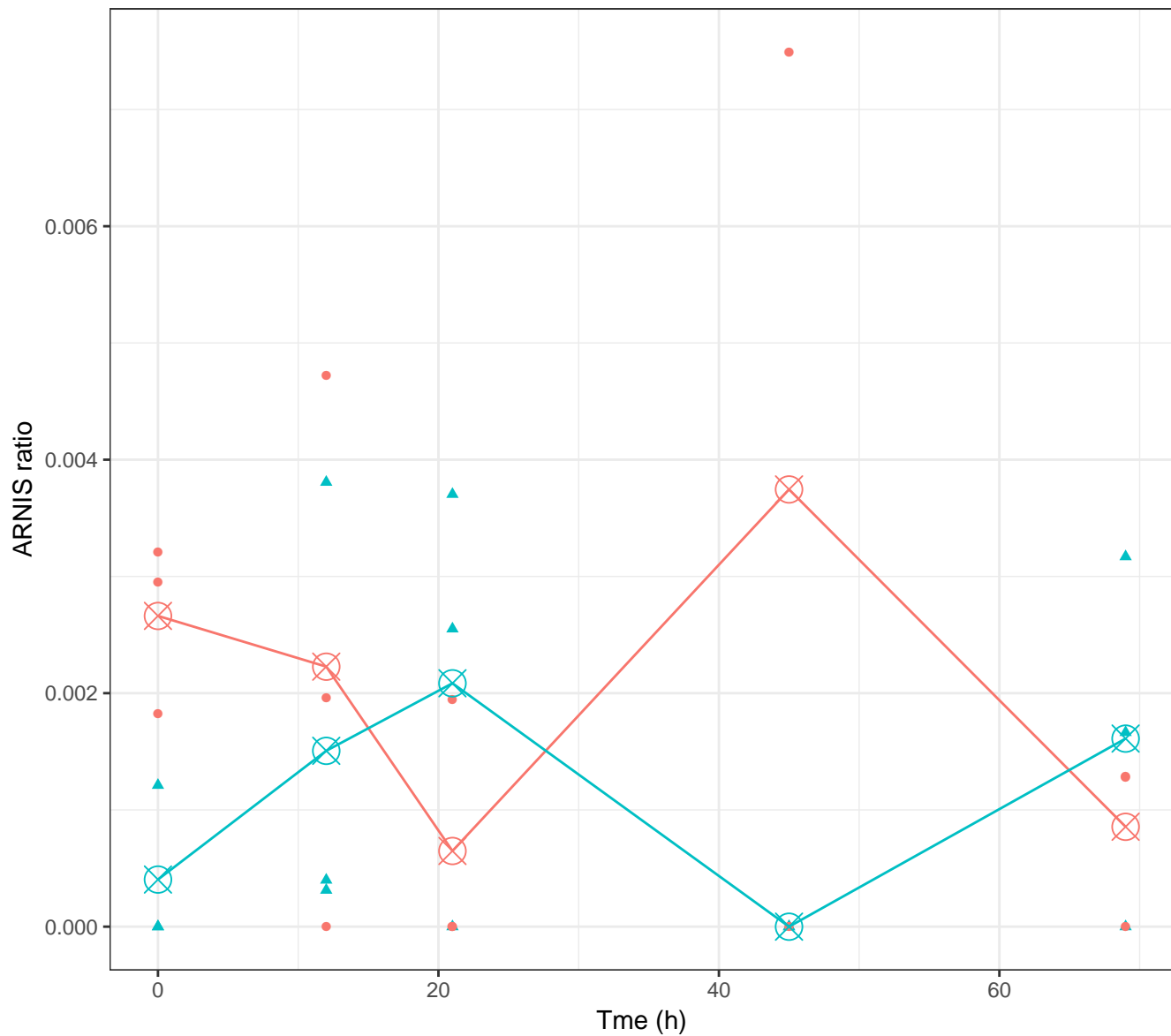
Treatment  Control  Filtered-1micron

OTU.755_Actinobacteria_clade_acVII

Treatment  Control  Filtered-1micron

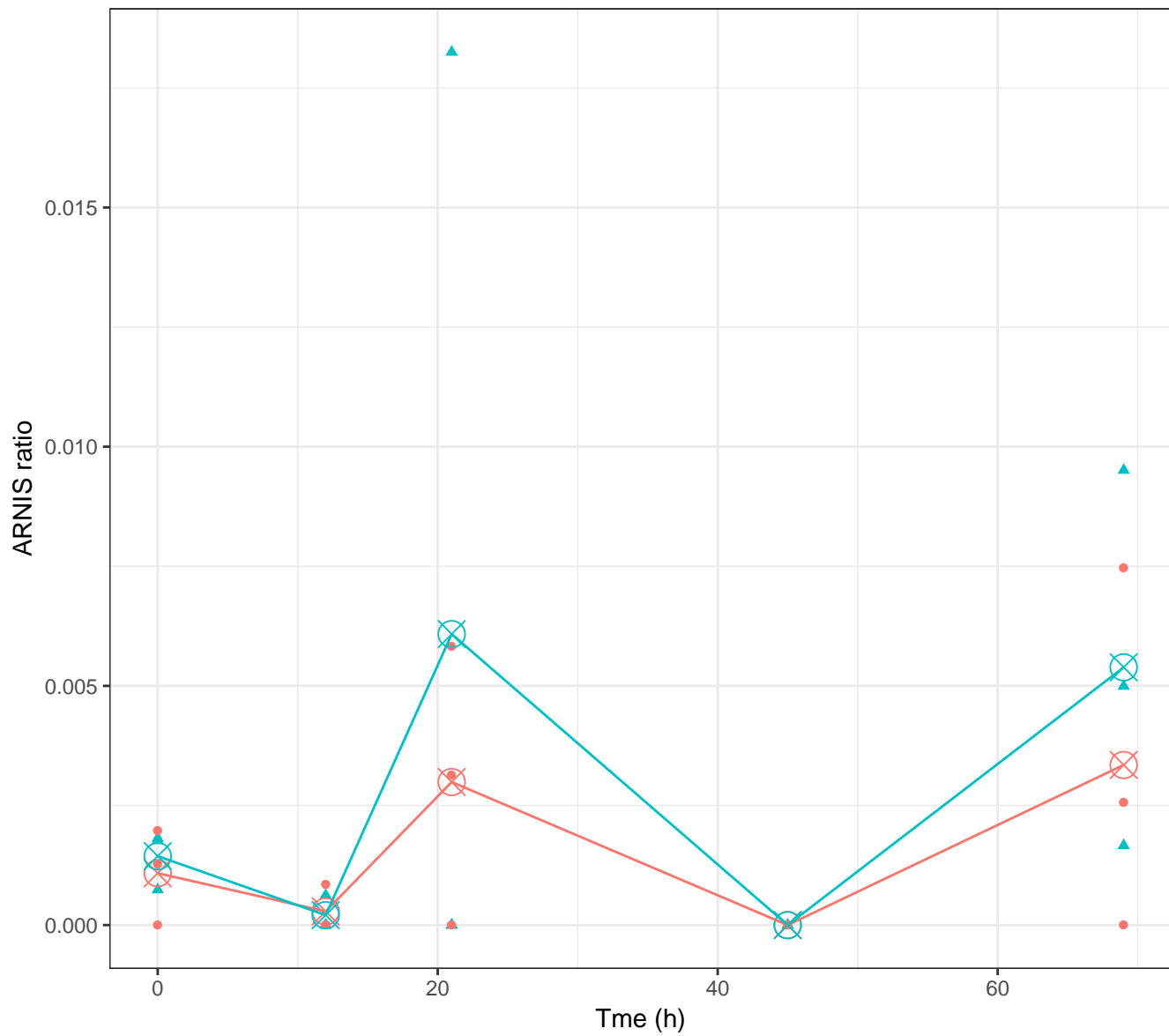
OTU.279_Actinobacteria_Gaiellales

Treatment ⊗ Control ⊗ Filtered-1micron



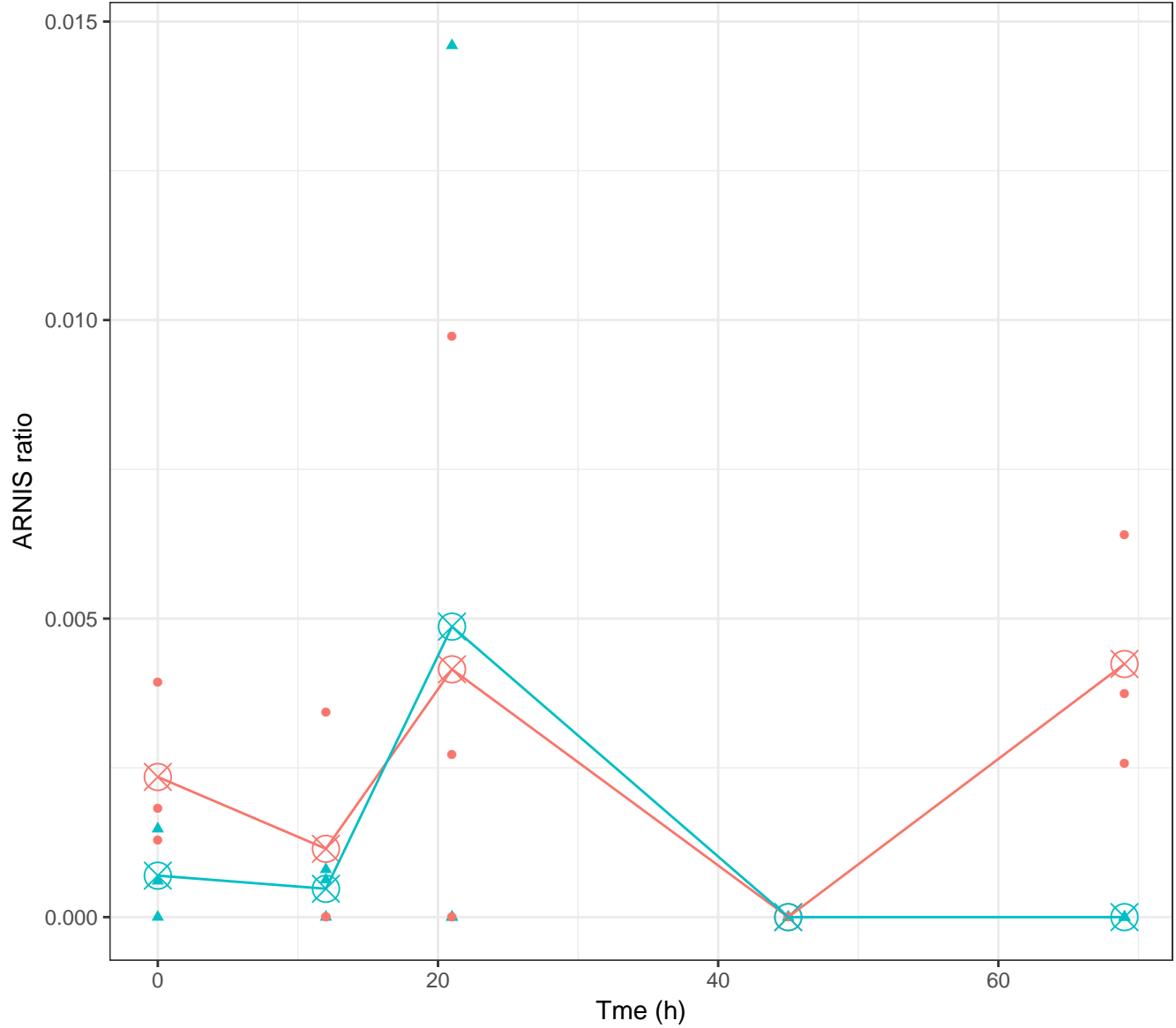
OTU.4445_Actinobacteria_Microcella

Treatment Control Filtered-1micron



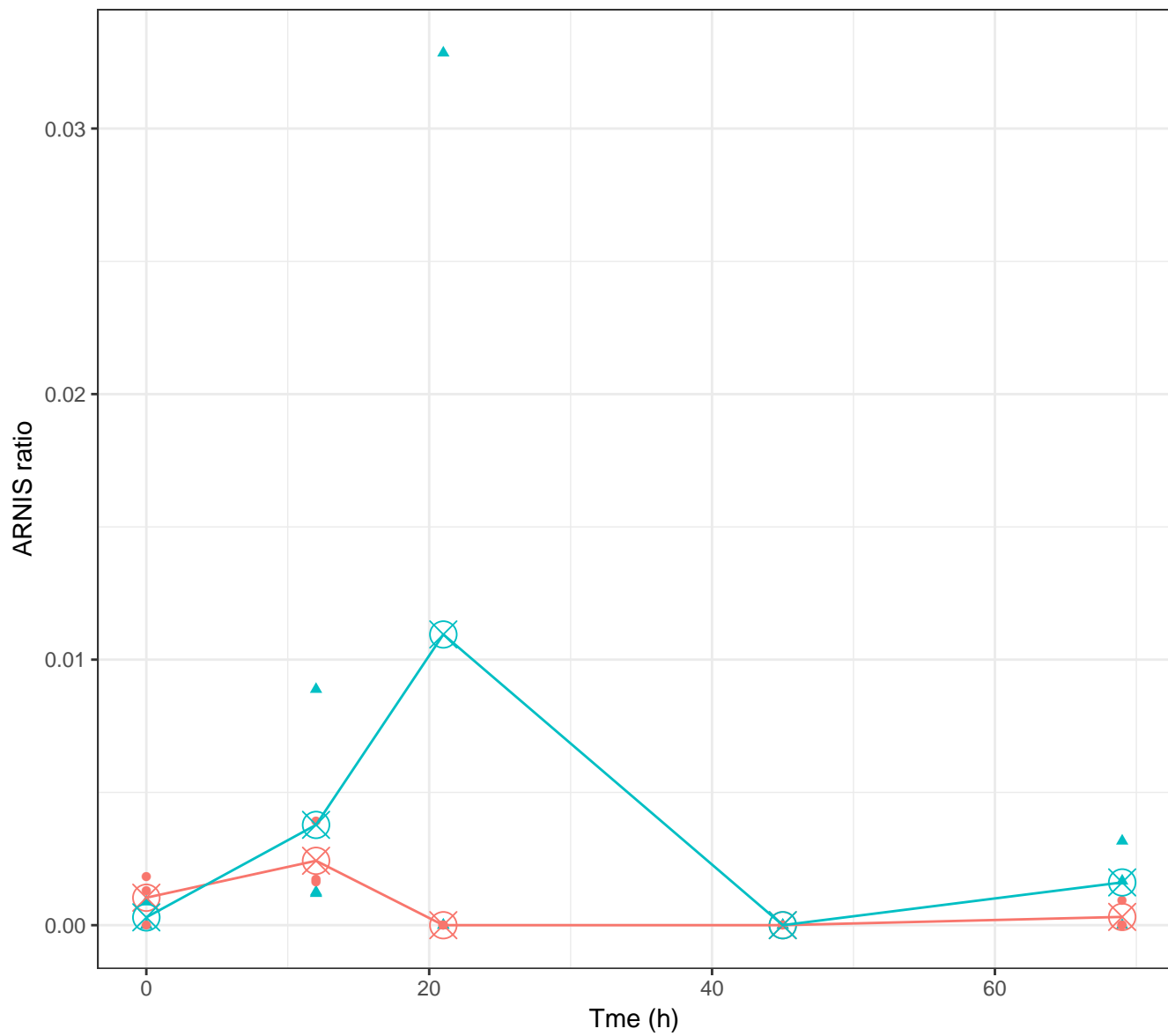
OTU.1897_Alphaproteobacteria_Rhodobacter

Treatment ⊗ Control ⊗ Filtered-1micron



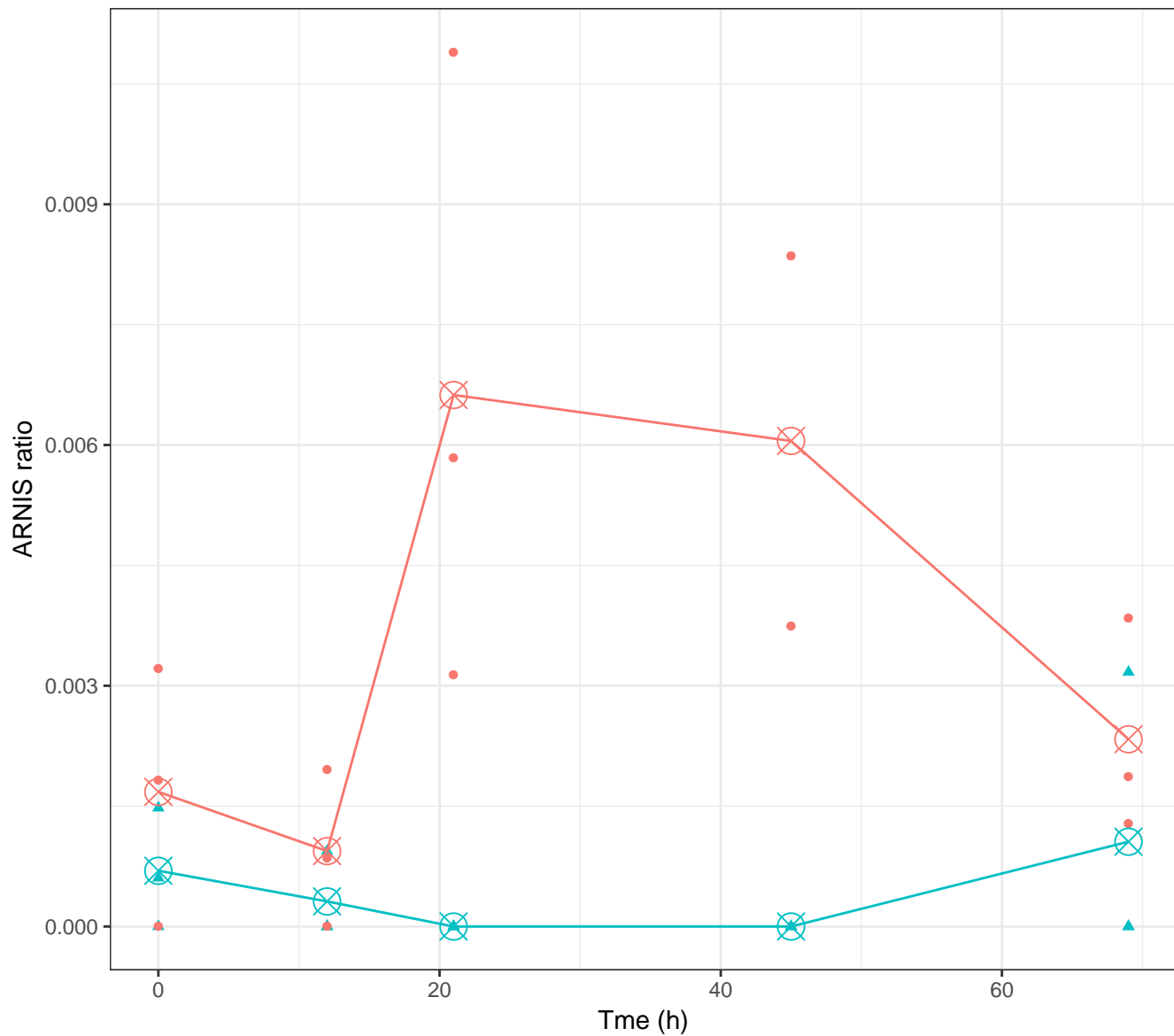
OTU.80_Actinobacteria_Acidimicrobiales

Treatment Control Filtered-1micron



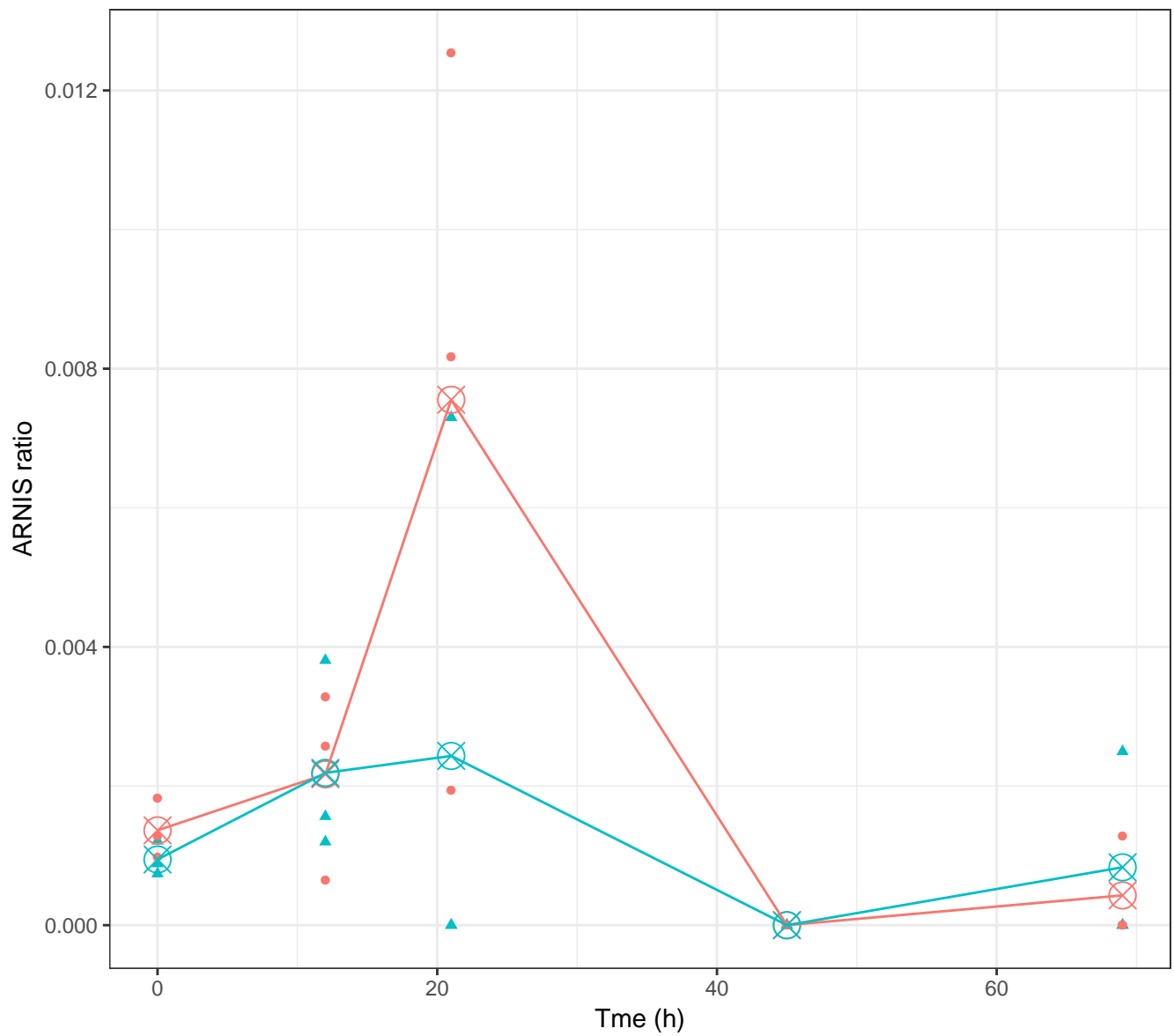
OTU.1289_Bacteroidetes_Saprospiraceae

Treatment ⊗ Control ⊗ Filtered-1micron



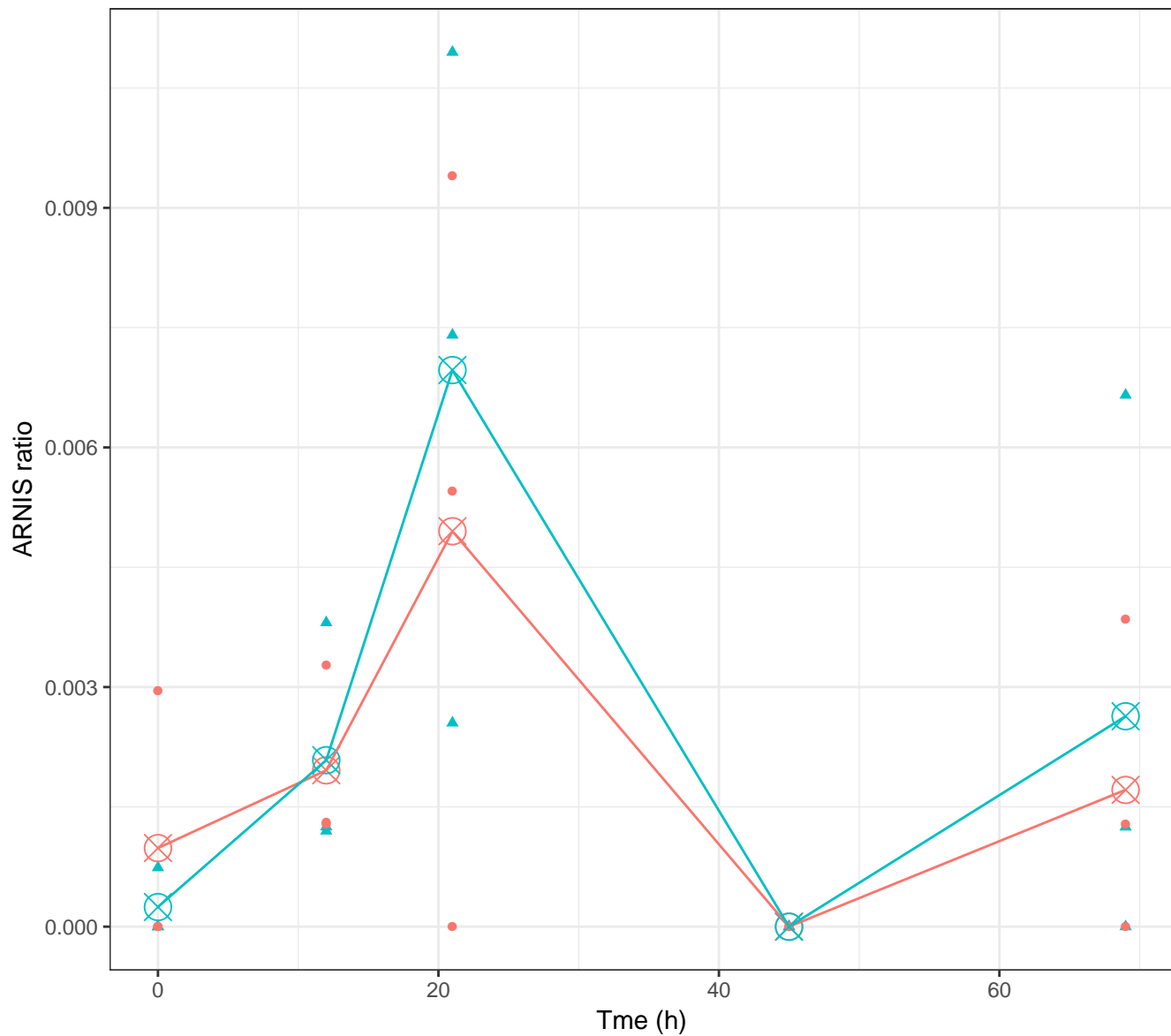
OTU.650_Bacteroidetes_Flavobacterium

Treatment ⊗ Control ⊗ Filtered-1micron



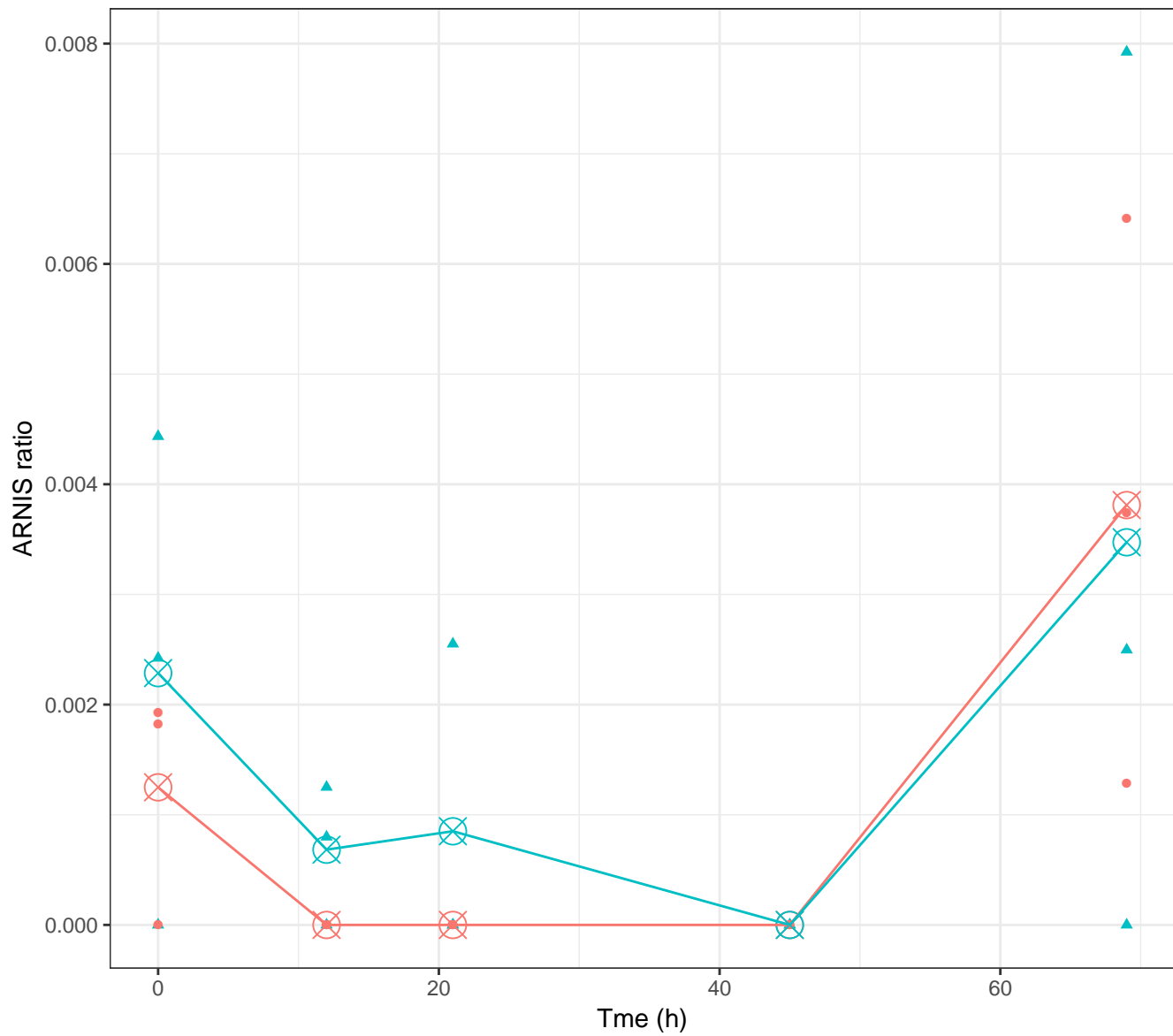
OTU.29_Bacteroidetes_Filimonas

Treatment ⊗ Control ⊗ Filtered-1micron





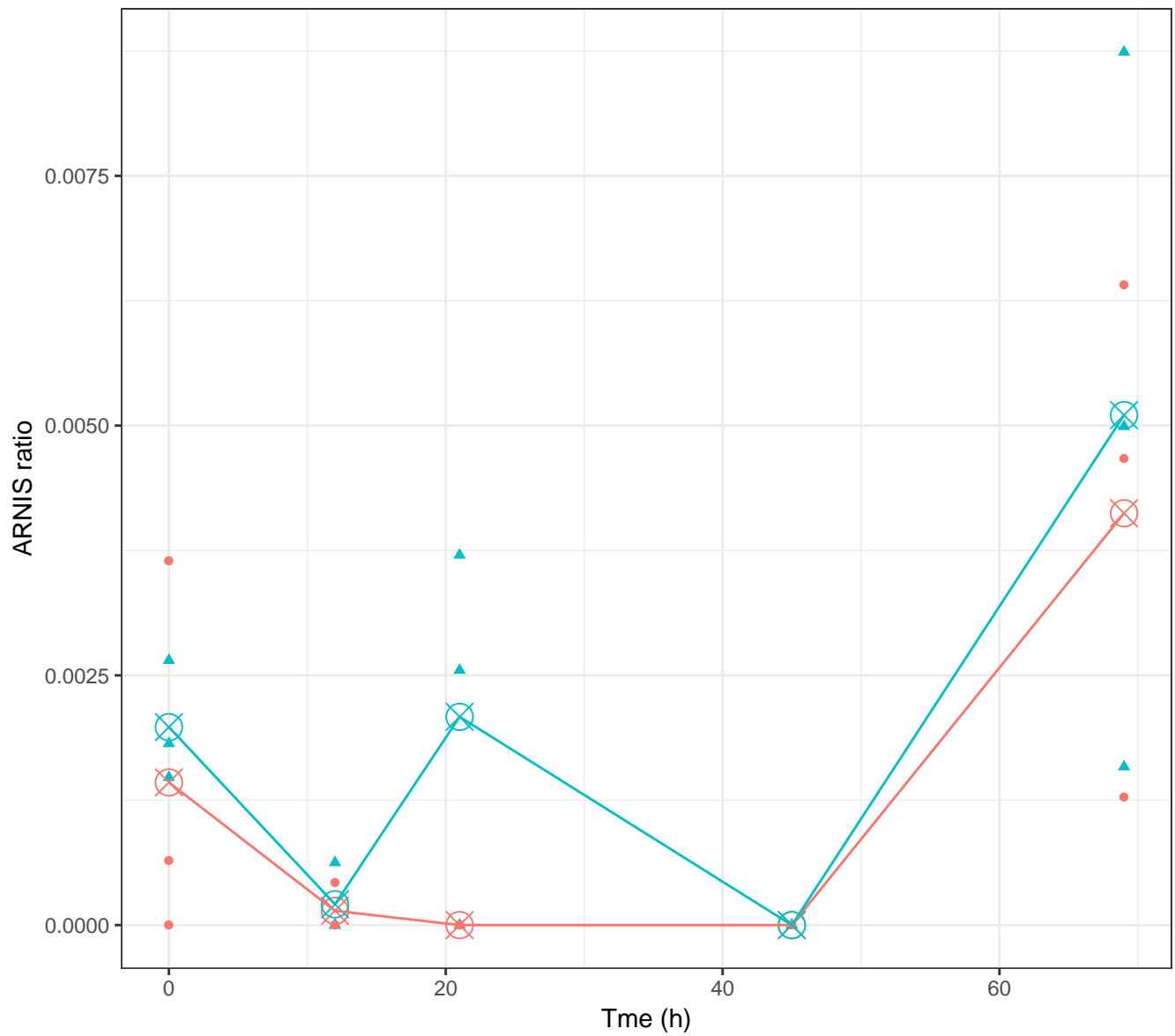
OTU.405_Actinobacteria_Actinomycetales

Treatment Control Filtered-1micron



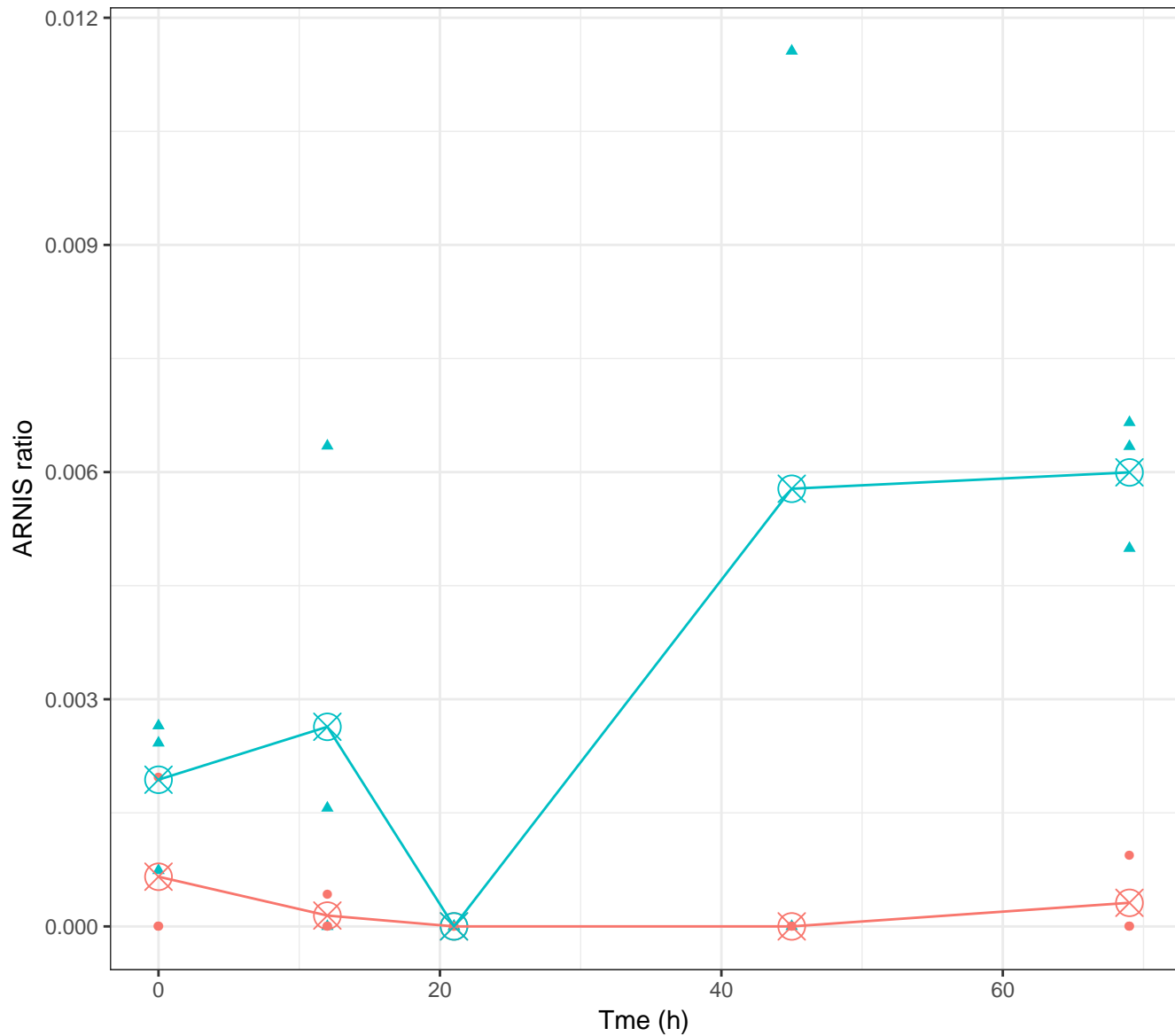
OTU.1169_Actinobacteria_Candidatus_Limnoluna

Treatment  Control  Filtered-1micron



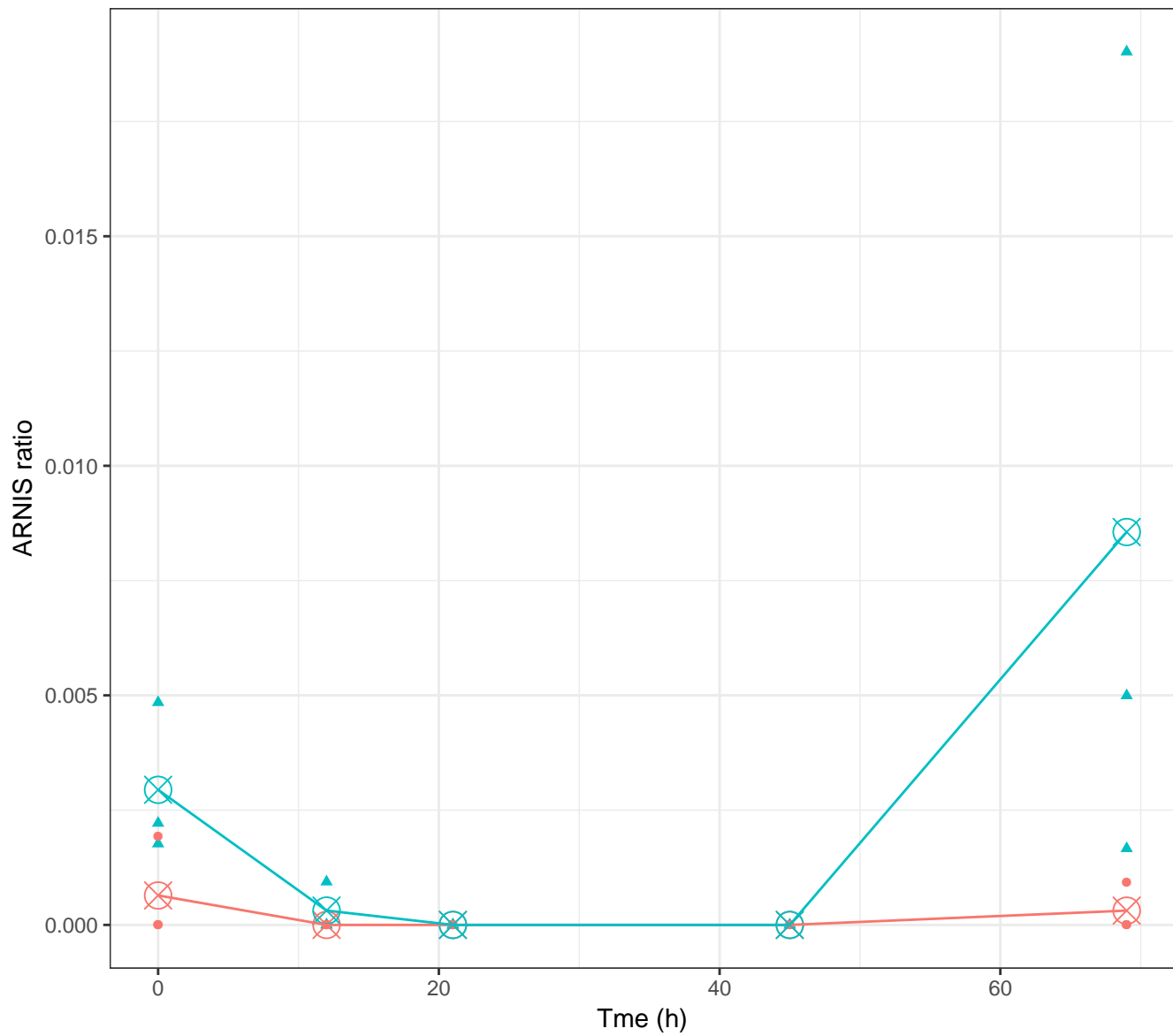
OTU.1184_Betaproteobacteria_Massilia

Treatment ⊗ Control ⊗ Filtered-1micron



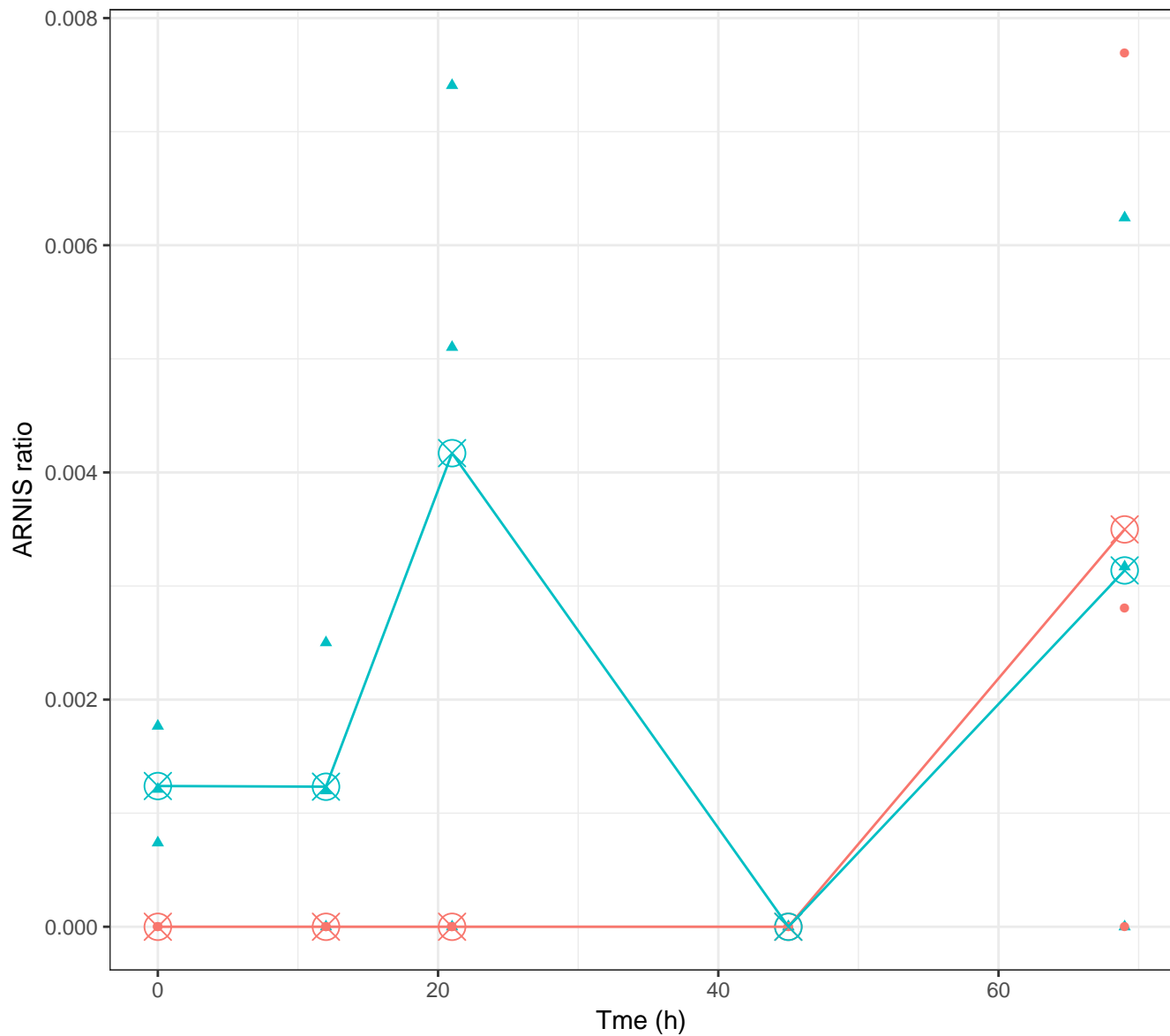
OTU.2931_Verrucomicrobia_Opitutae

Treatment ⊗ Control ⊗ Filtered-1micron



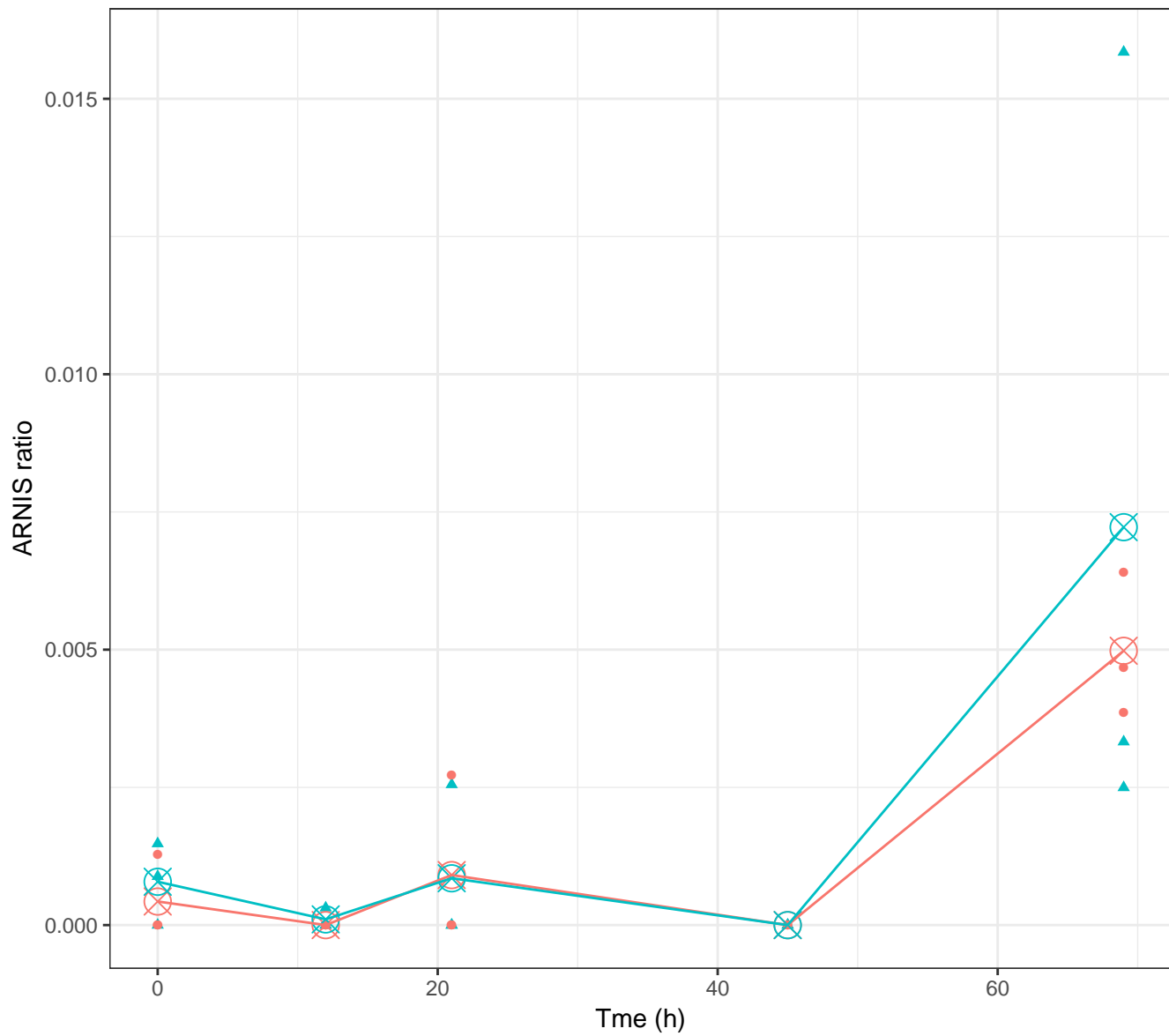
OTU.200_Actinobacteria_clade_acl.A1

Treatment ⊗ Control ⊗ Filtered-1micron



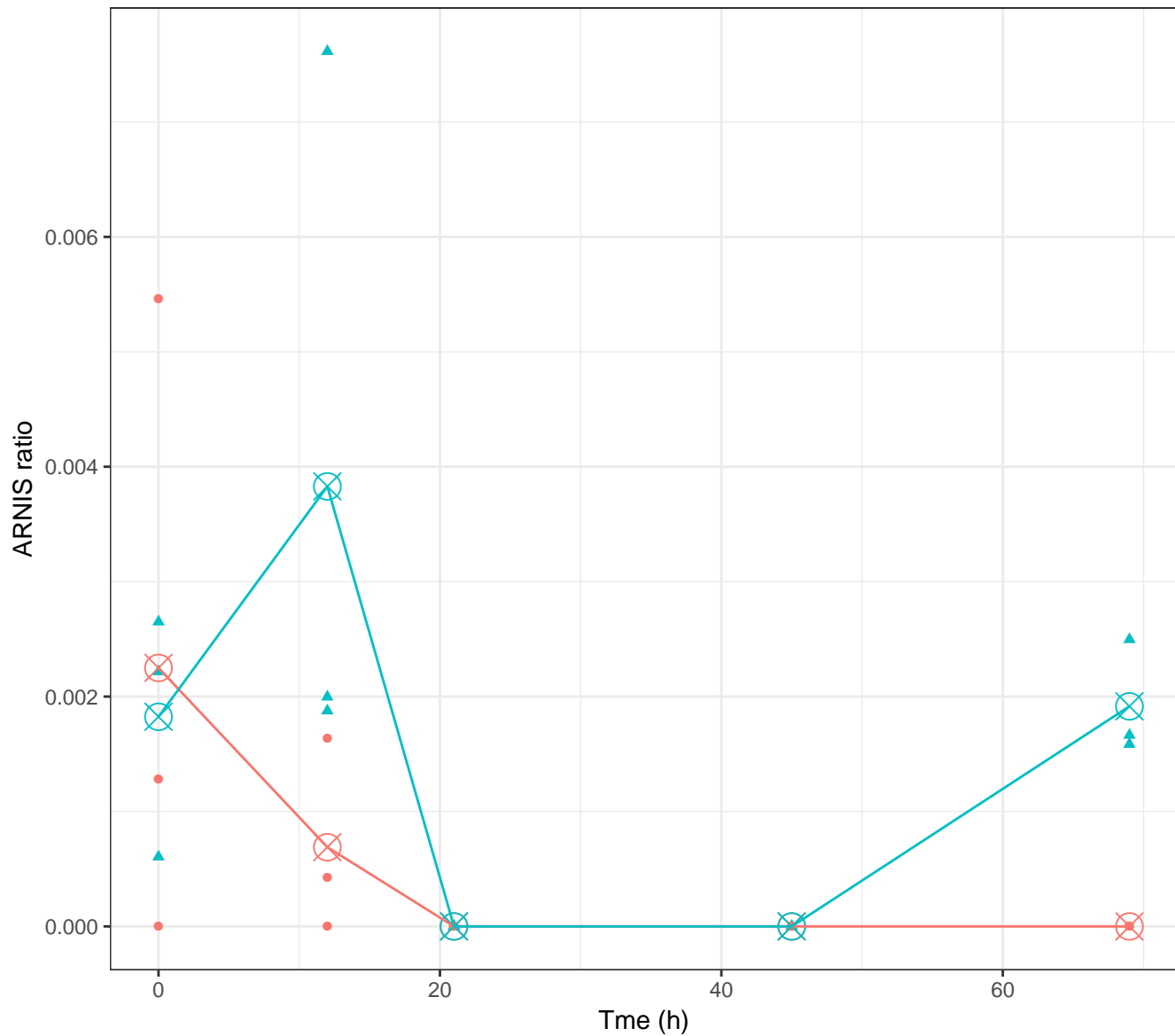
OTU.1375_Actinobacteria_clade_acVII

Treatment ⊗ Control ⊗ Filtered-1micron



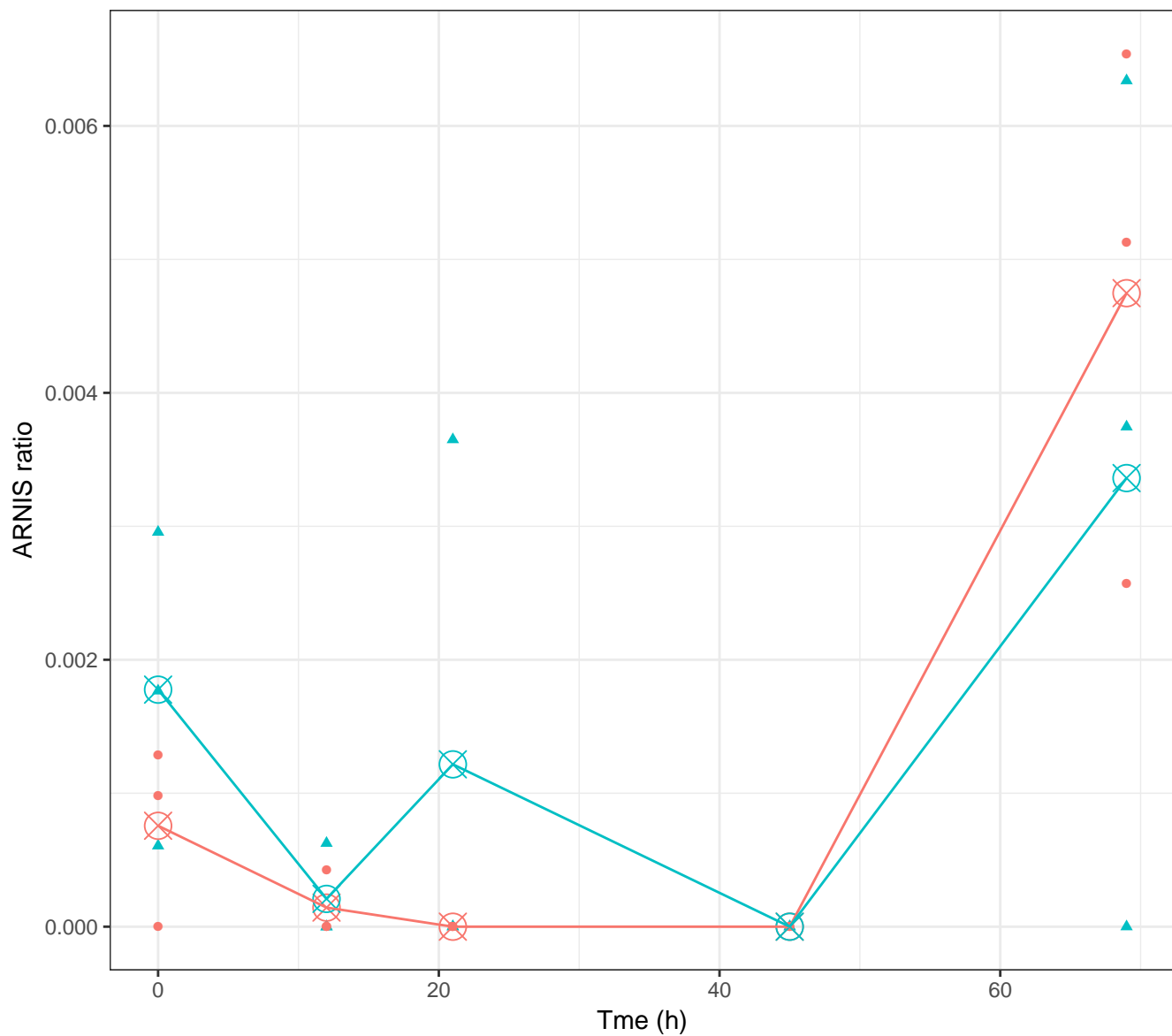
OTU.100_Bacteroidetes_Sphingobacteriales_NS11.12_marine_group

Treatment ⊗ Control ⊗ Filtered-1micron



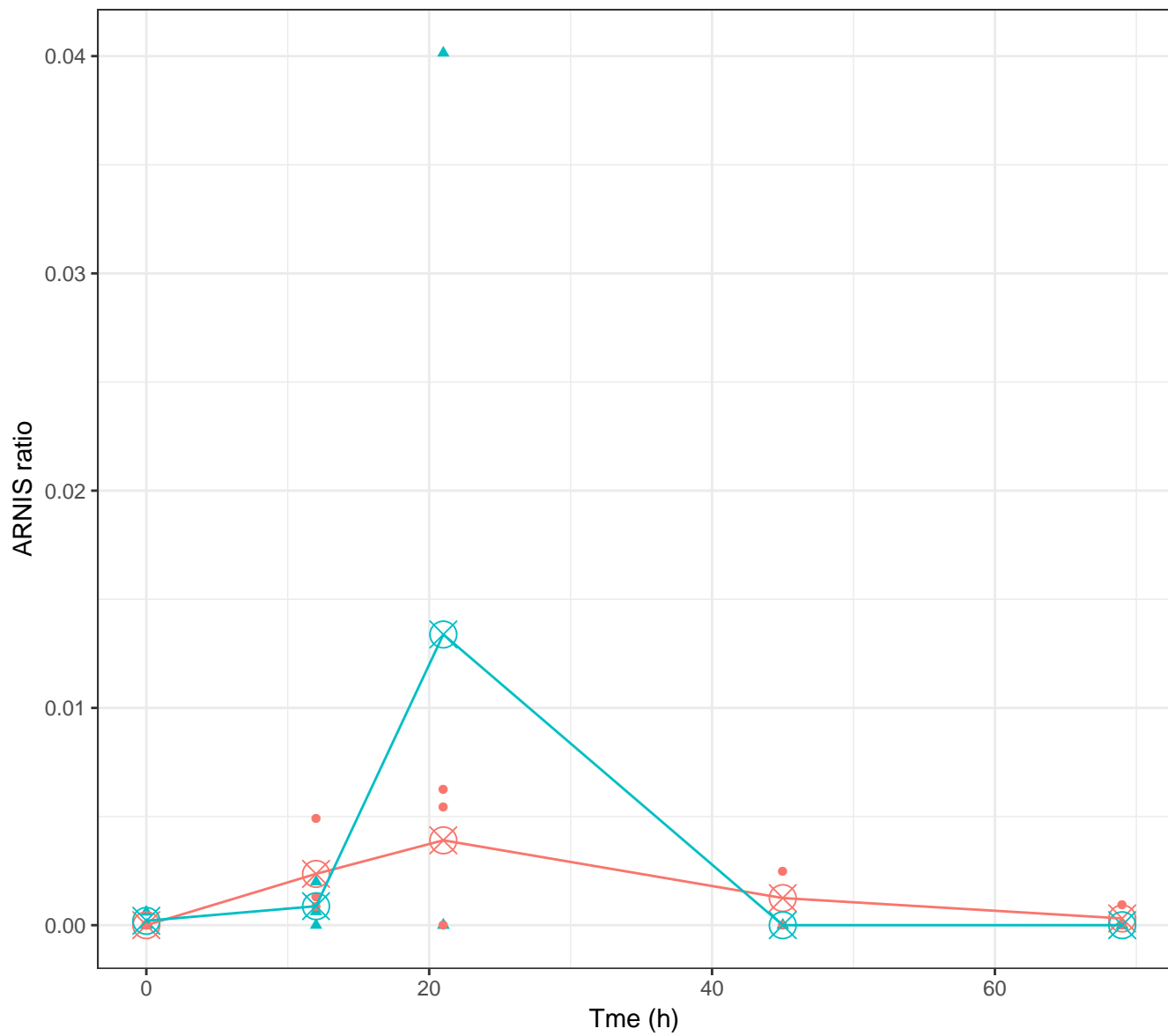
OTU.740_Betaproteobacteria_Variovorax

Treatment ⊗ Control ⊗ Filtered-1micron



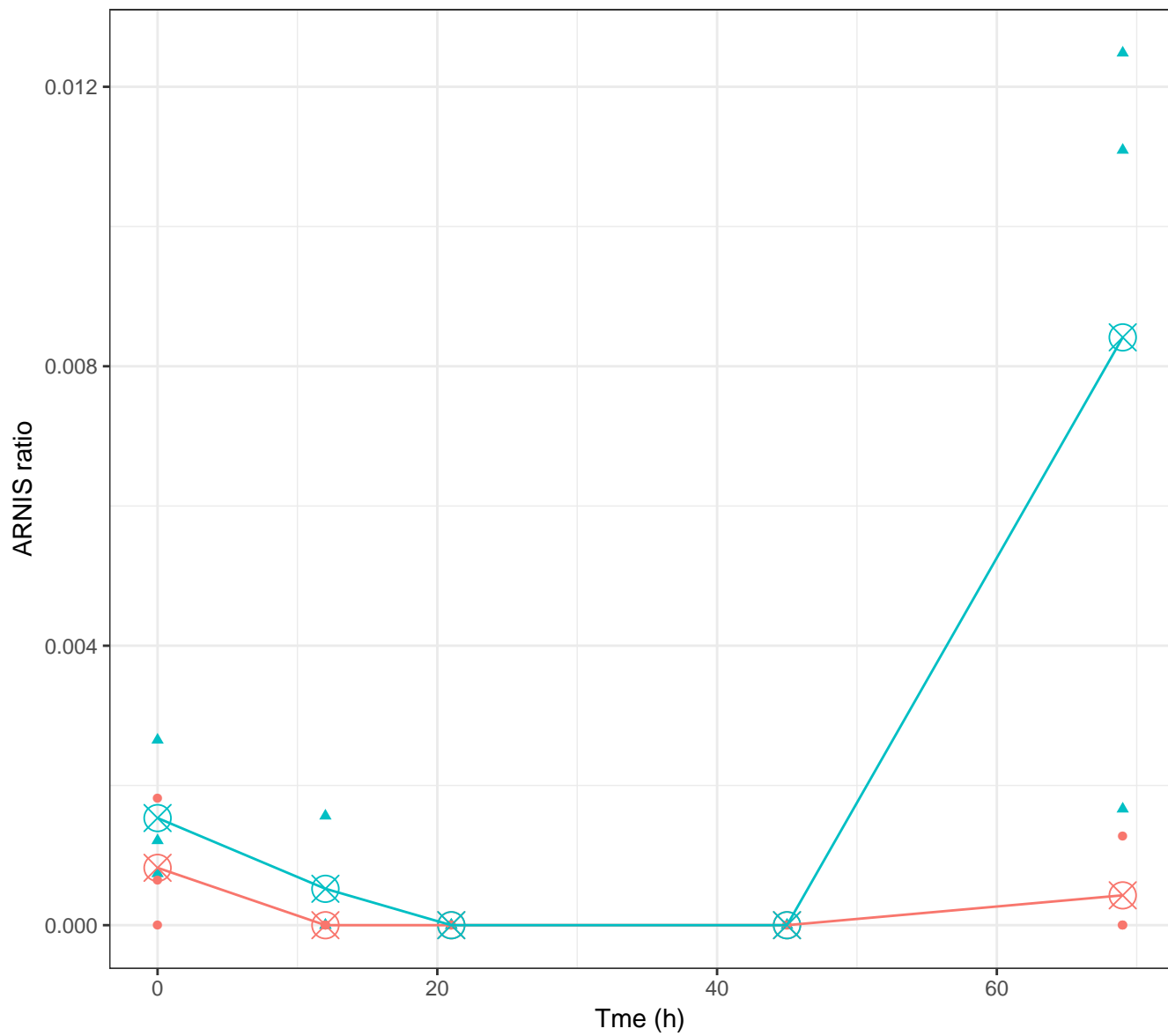
OTU.431_Actinobacteria_CandidatusMicrothrix

Treatment Control Filtered-1micron



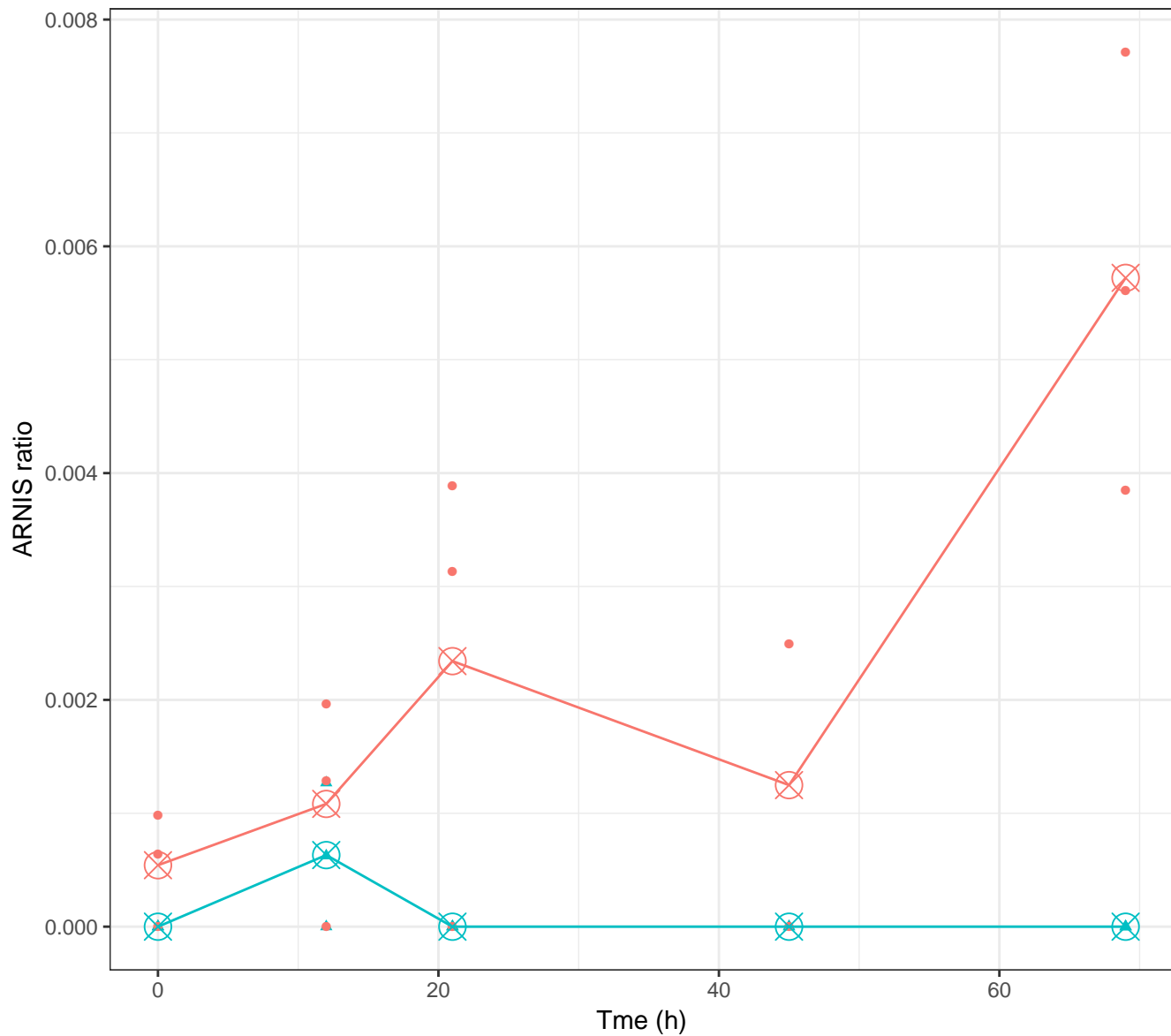
OTU.455_Actinobacteria_clade_acl.A1

Treatment Control Filtered-1micron



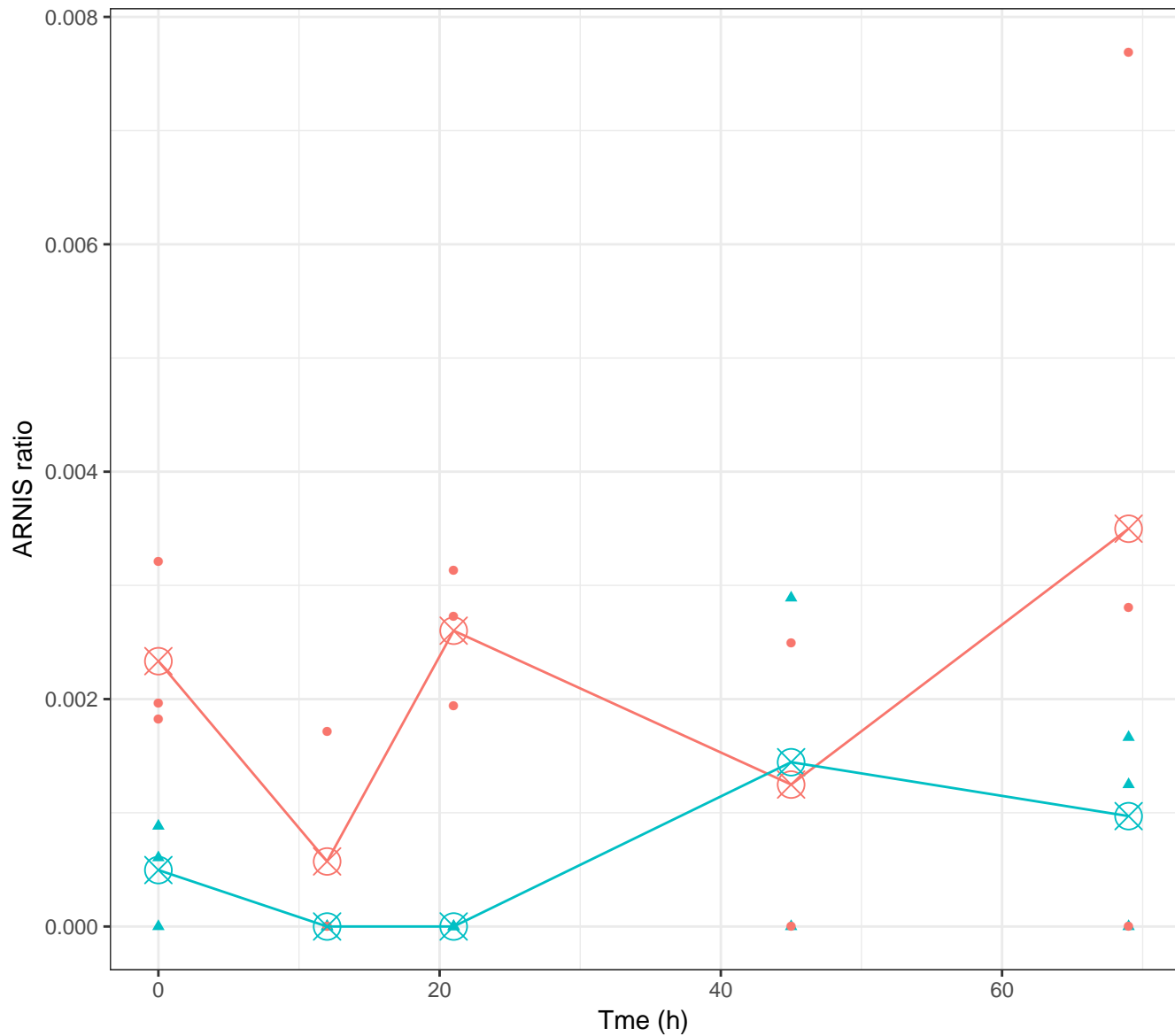
OTU.63_Verrucomicrobia_Luteolibacter

Treatment Control Filtered-1micron



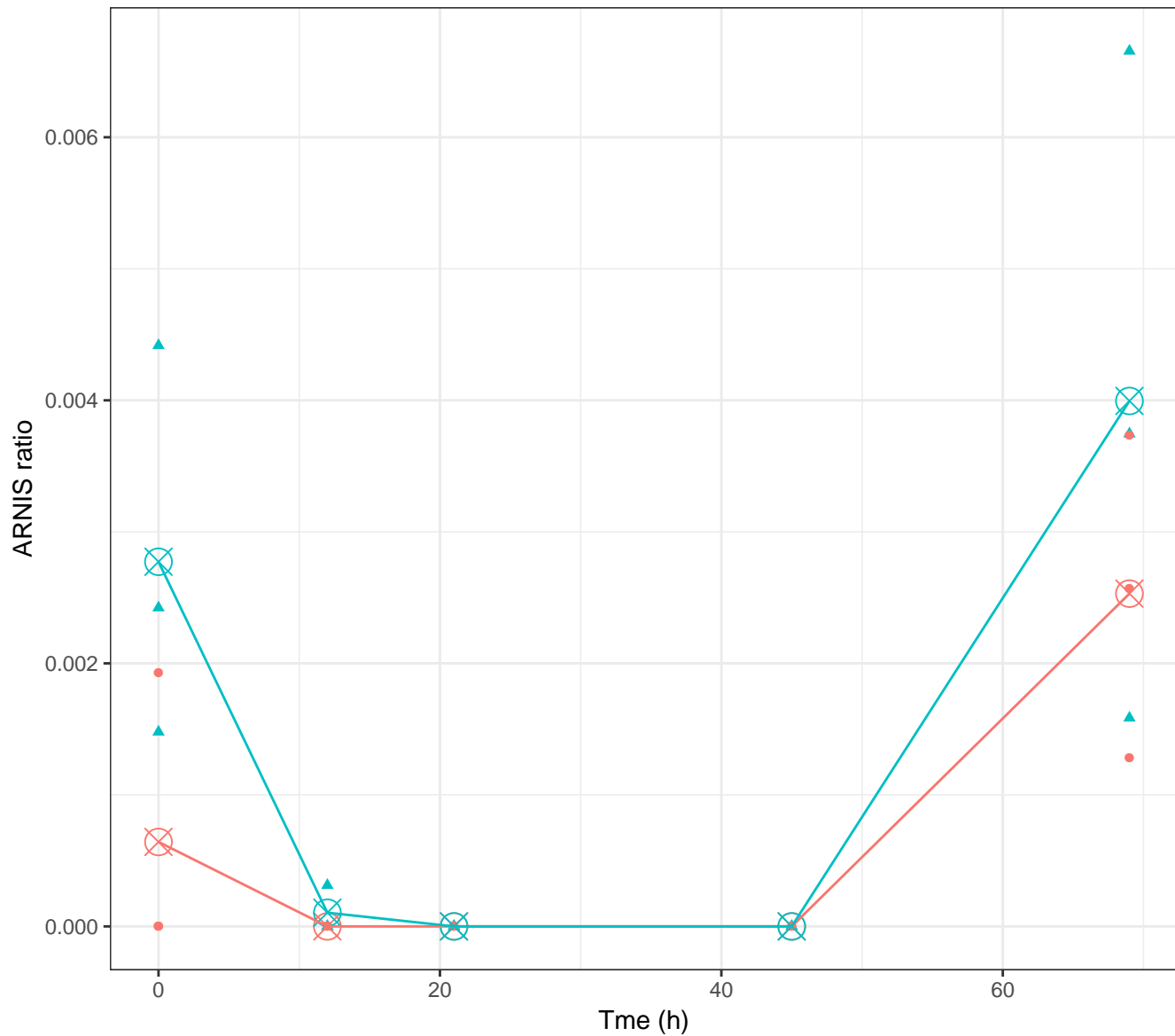
OTU.263_Alphaproteobacteria_Rickettsiaceae

Treatment ⊗ Control ⊗ Filtered-1micron



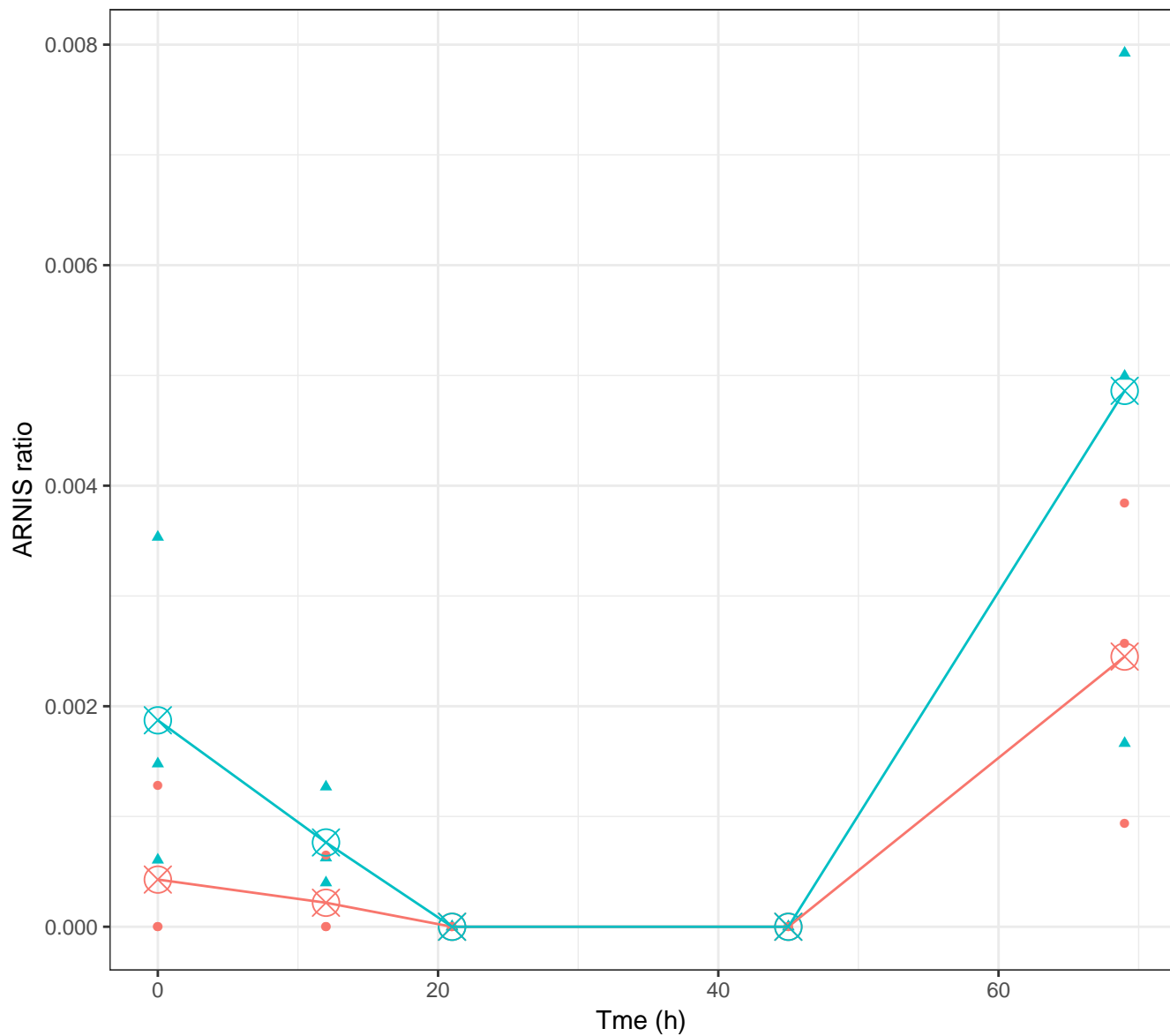
OTU.1228_Betaproteobacteria_Burkholderiales

Treatment ⊗ Control ⊗ Filtered-1micron



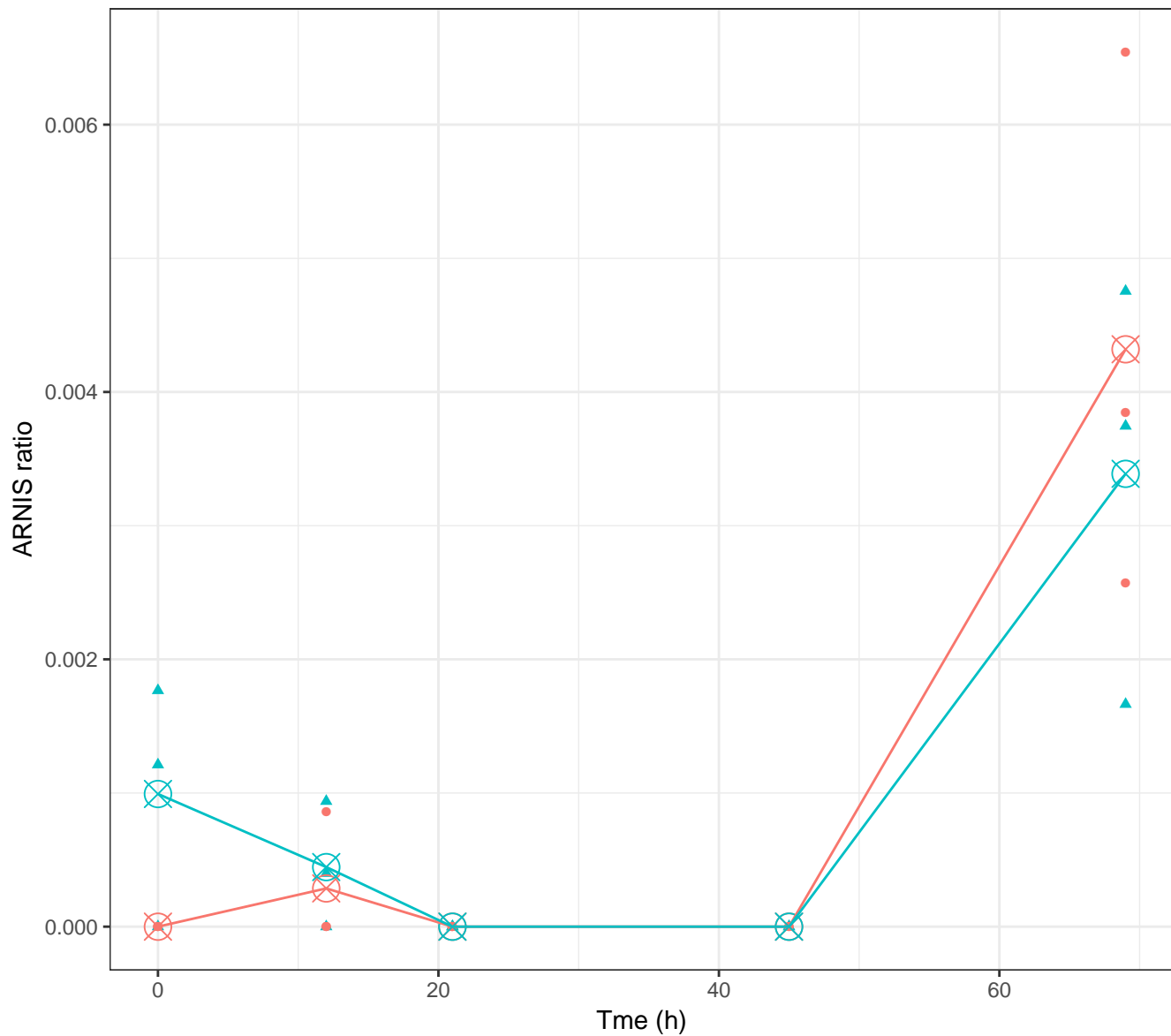
OTU.560_Actinobacteria_acl.B1

Treatment Control Filtered-1micron



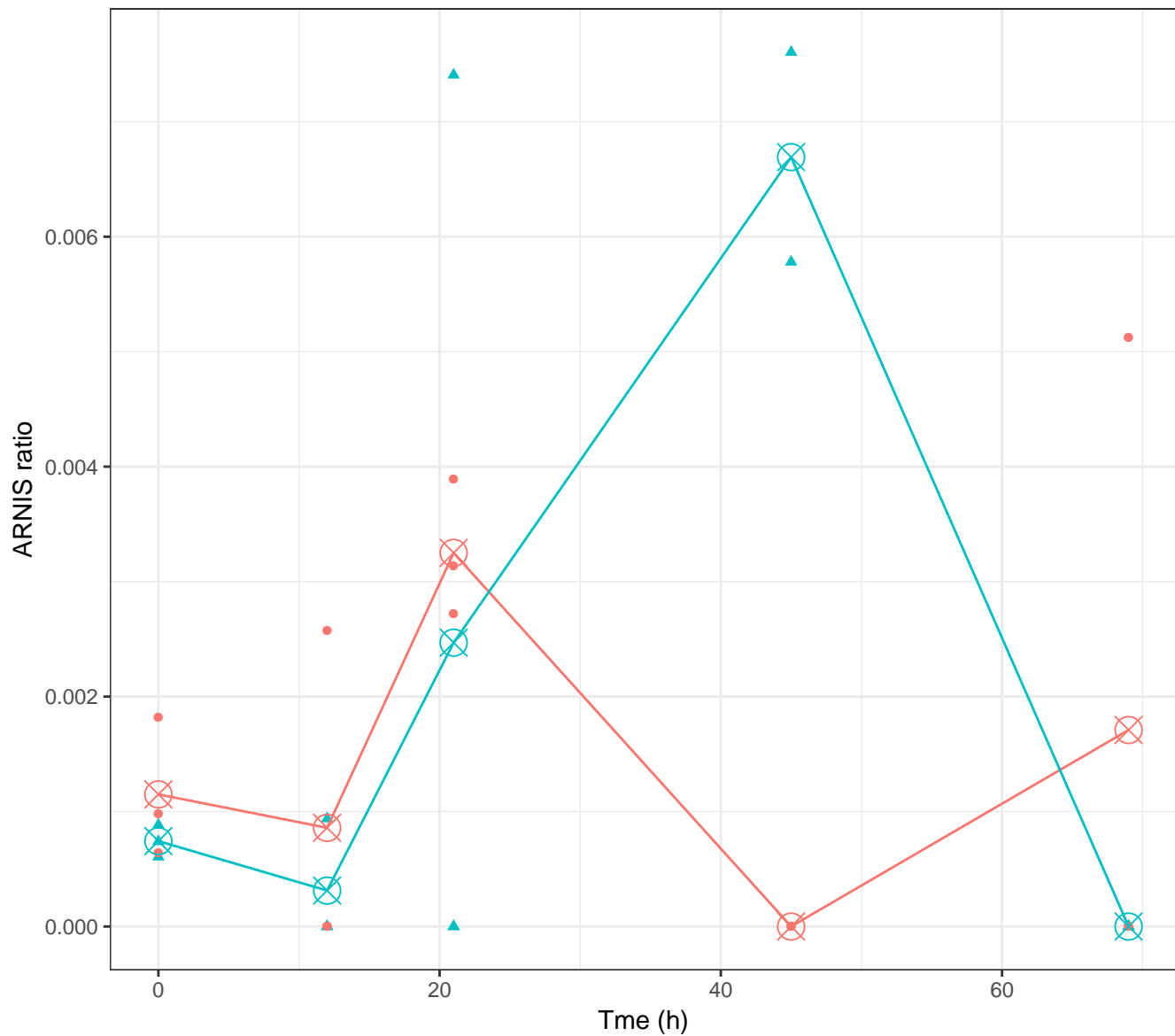
OTU.865_Actinobacteria_Microbacteriaceae

Treatment ⊗ Control ⊗ Filtered-1micron



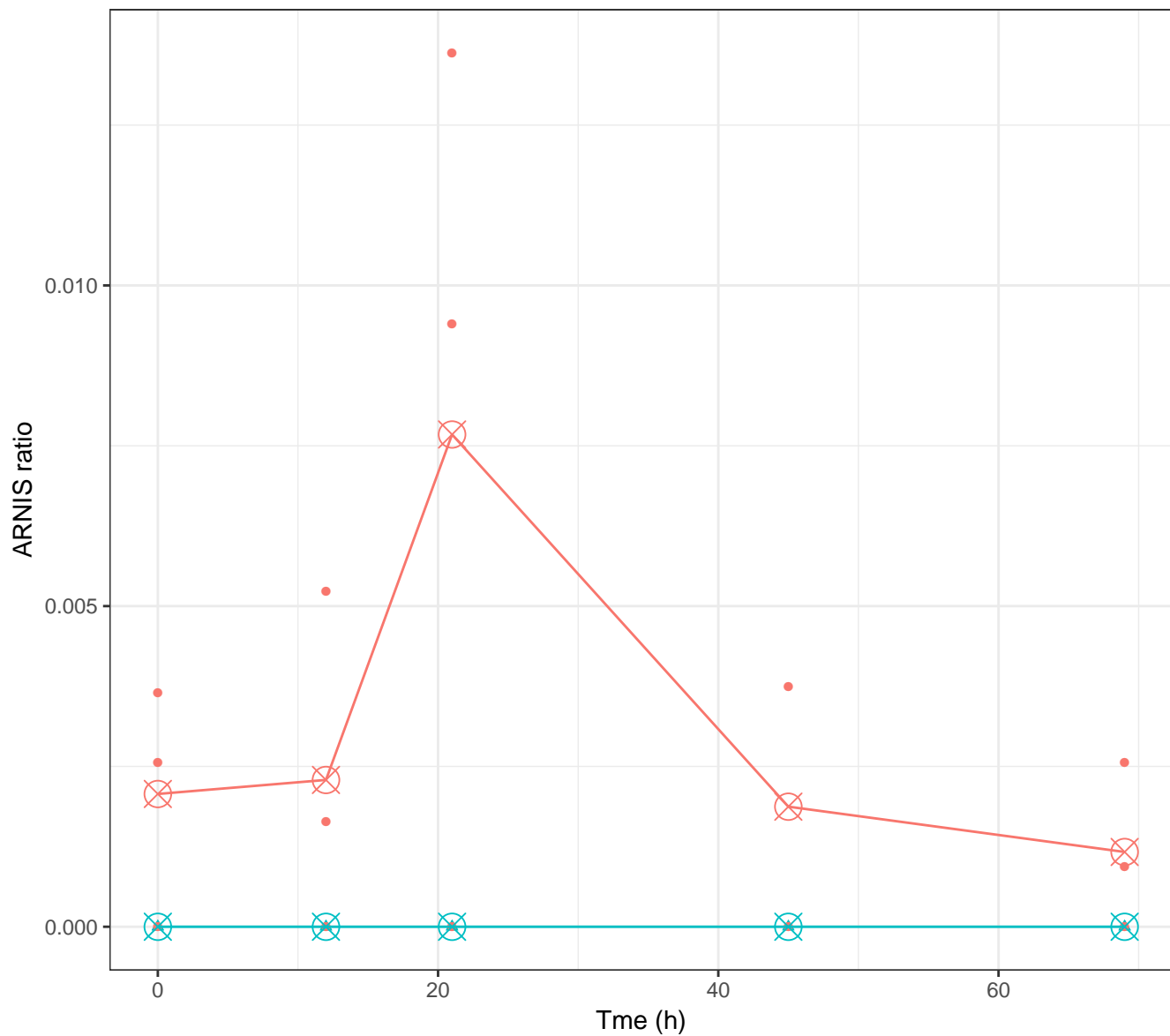
OTU.105_Actinobacteria_CL500.29_marine_group_freshwater_clade_aclV.A

Treatment ⊗ Control ⊗ Filtered-1micron



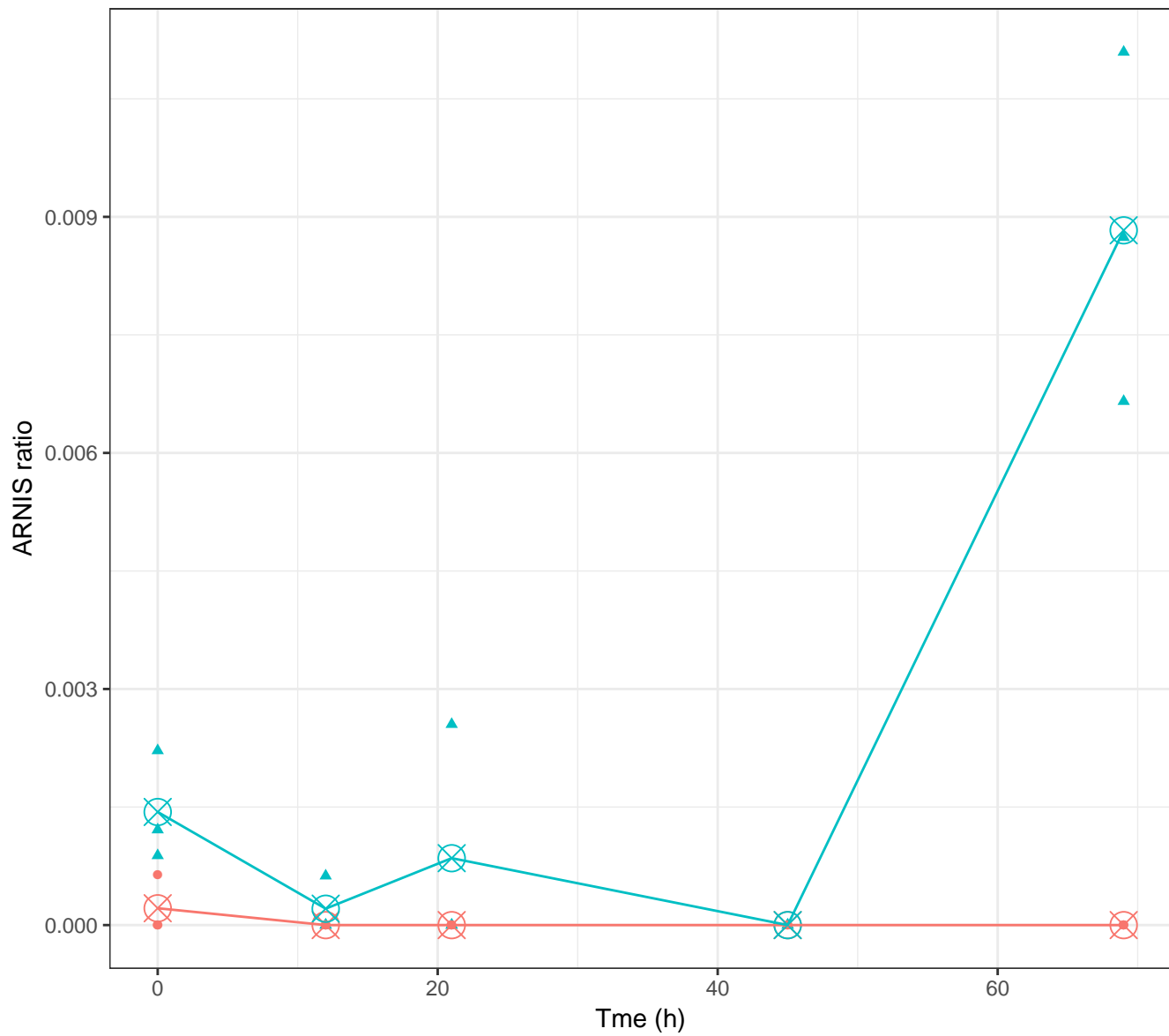


OTU.8063_Bacteroidetes_Flavobacterium



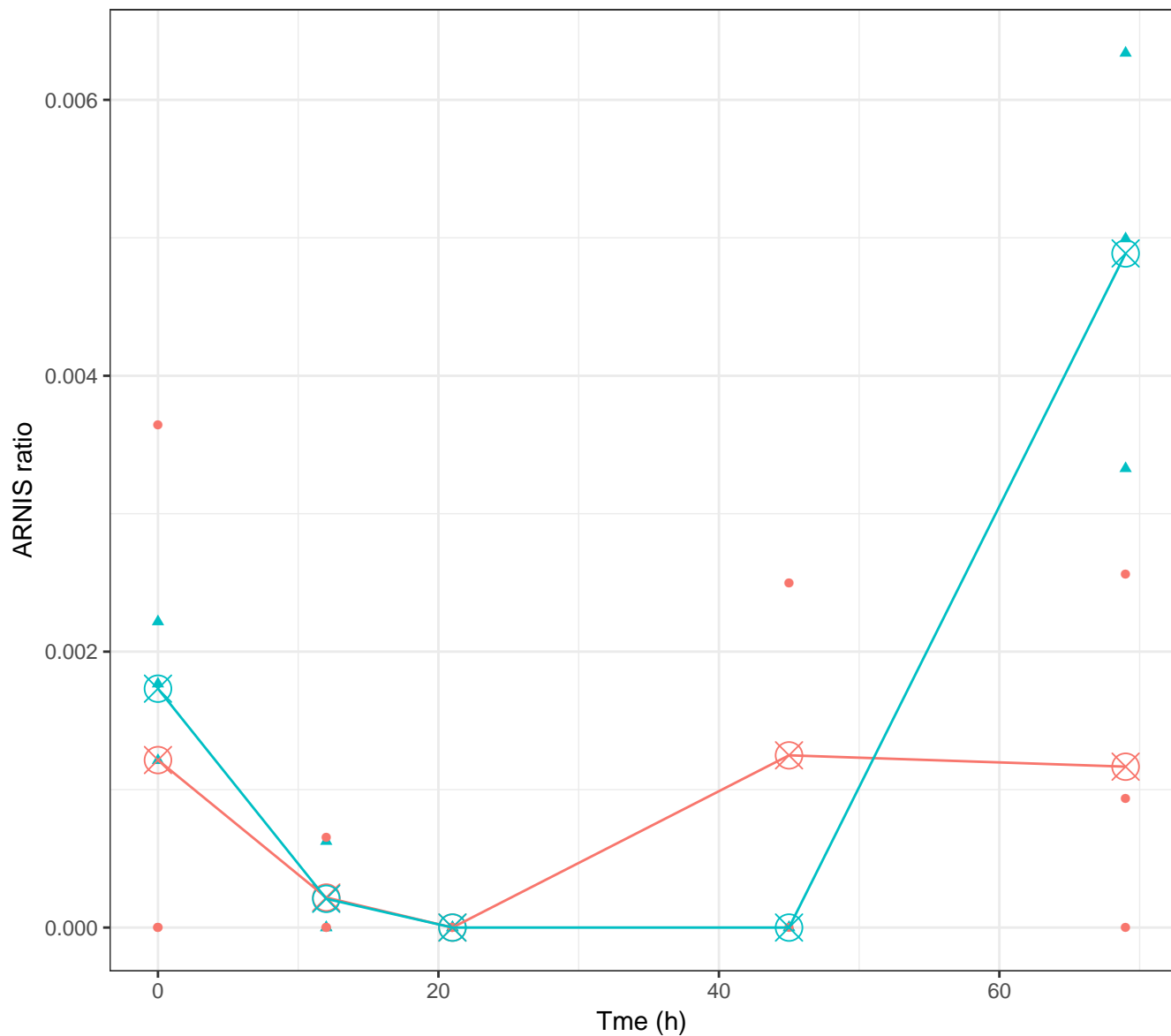
Treatment Control Filtered-1micron



OTU.1219_Verrucomicrobia_vadinHA64

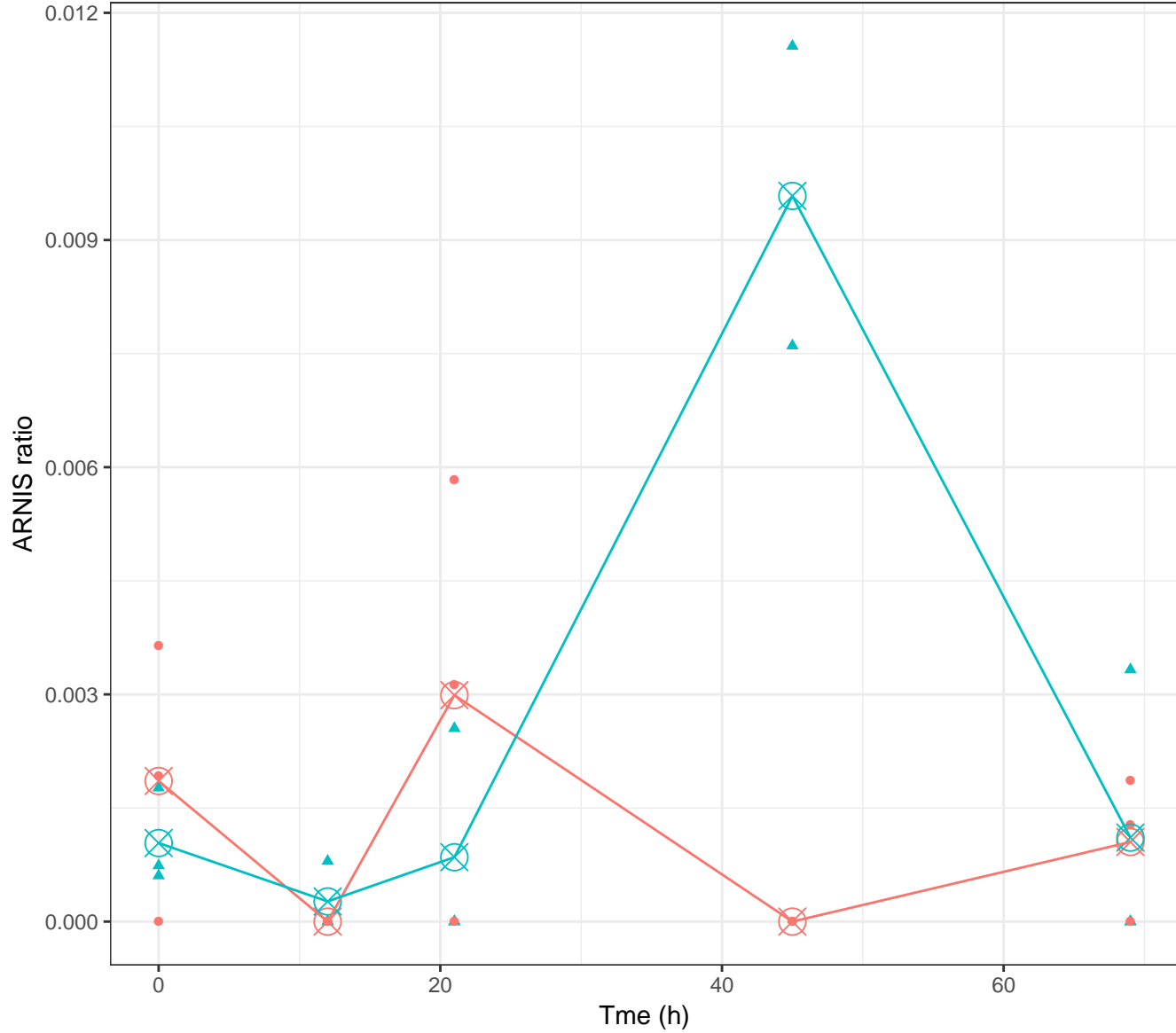
Treatment  Control  Filtered-1micron

OTU.1109_Actinobacteria.clade_acl.A

Treatment  Control  Filtered-1micron

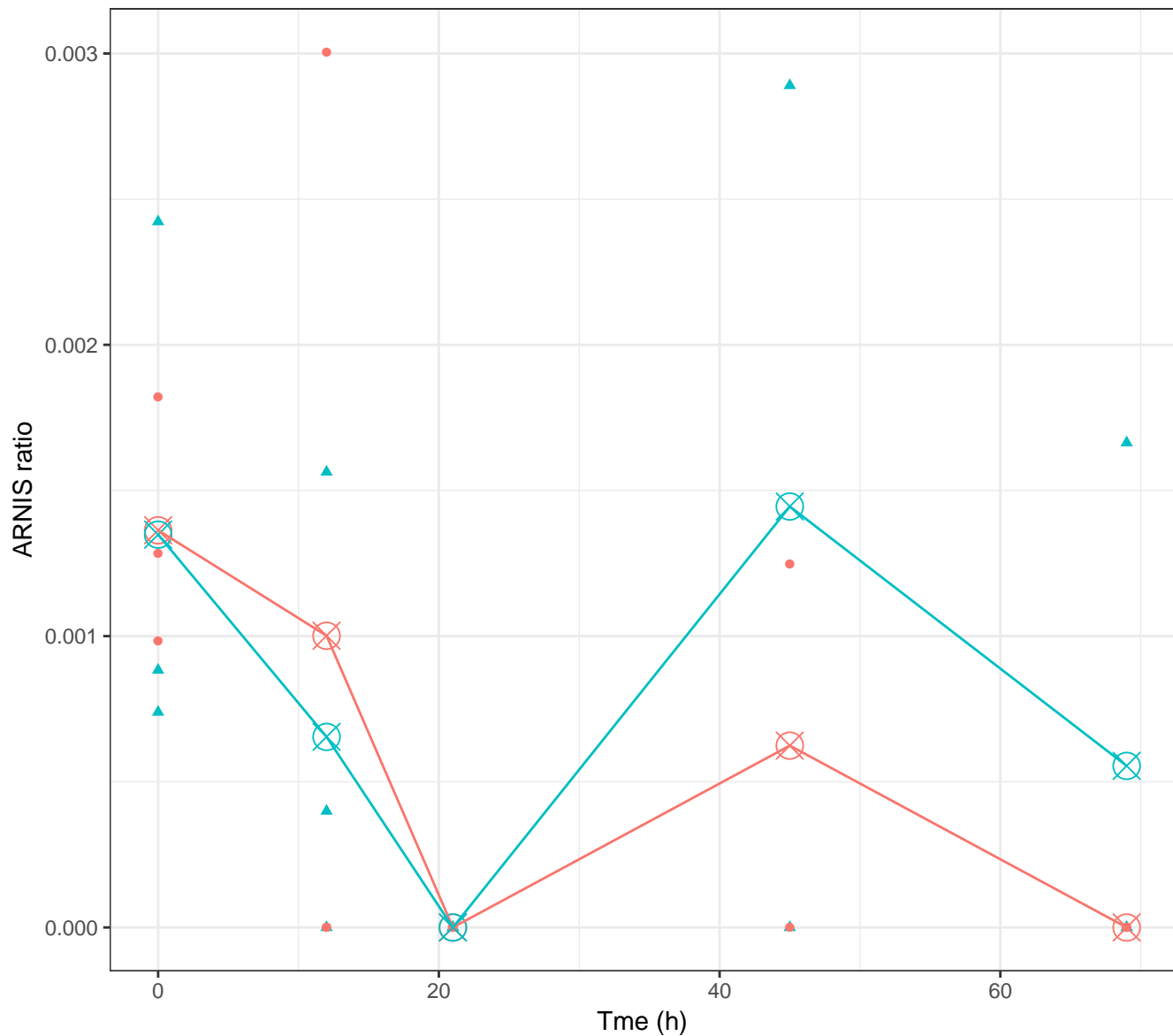
OTU.469_Bacteroidetes_Sphingobacteriales_AKYH767

Treatment ⊗ Control ⊗ Filtered-1micron





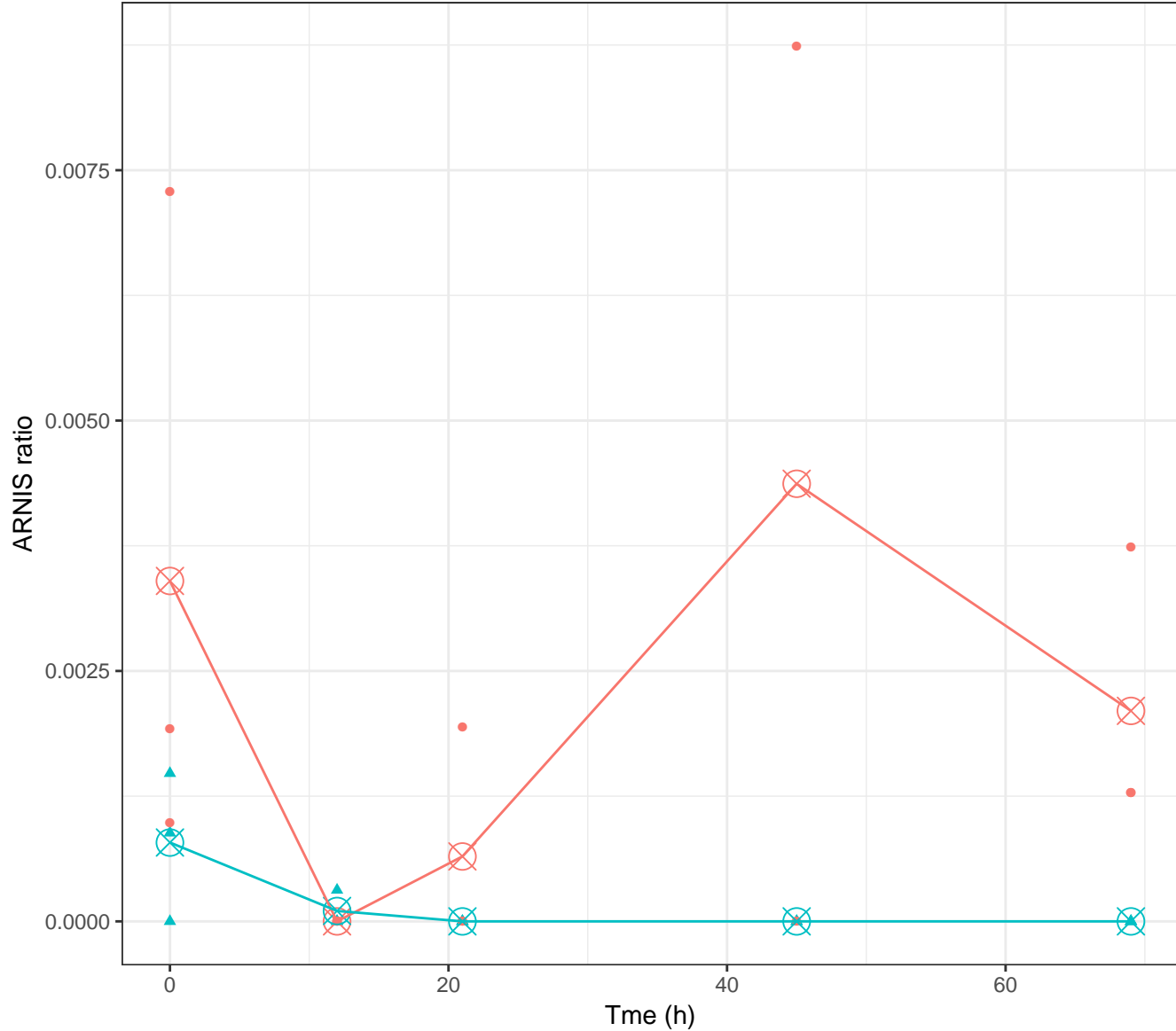
OTU.109_Actinobacteria_Gaiellales

Treatment ⊗ Control ⊗ Filtered-1micron



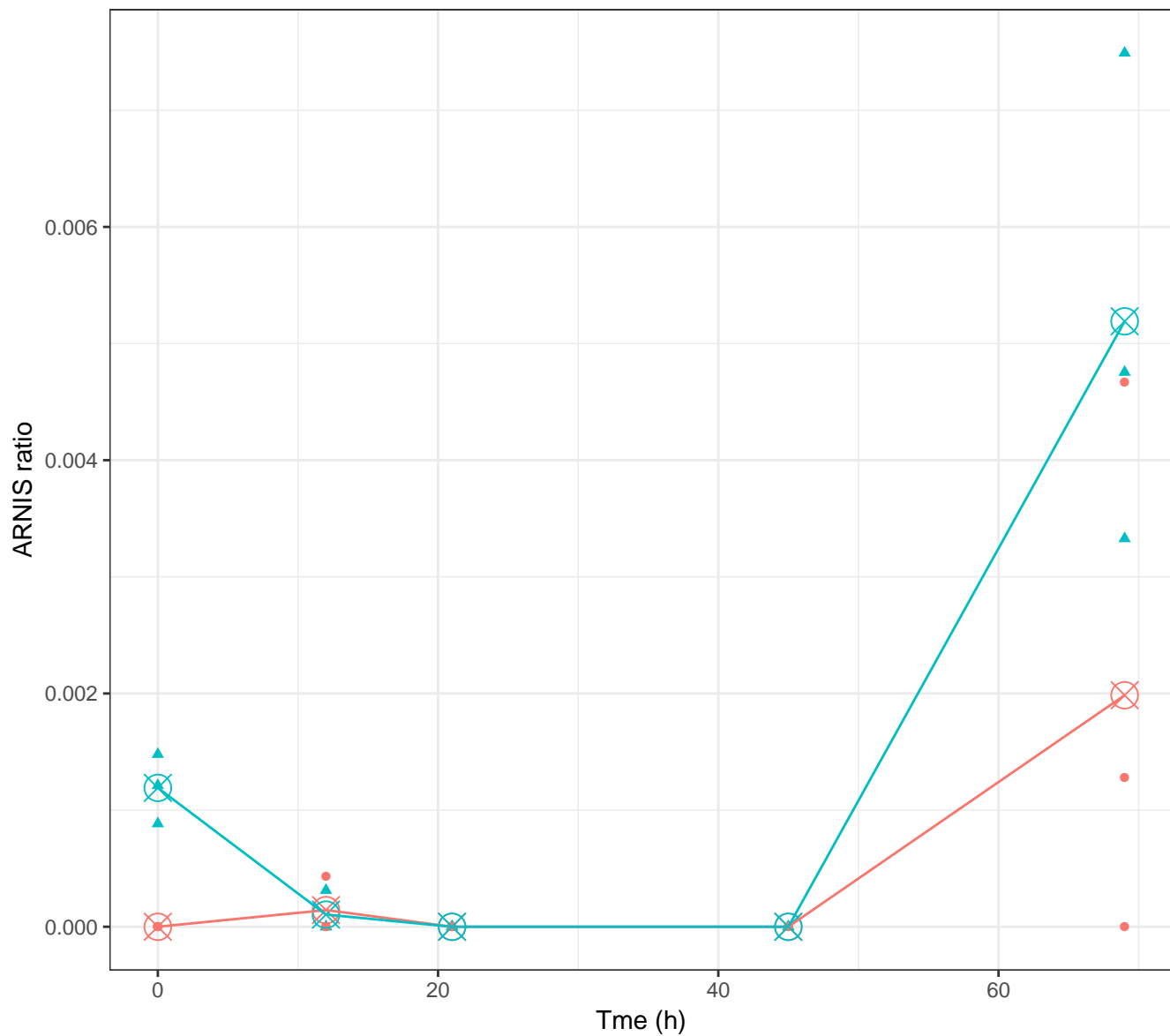


OTU.404_Alphaproteobacteria_Meganema

Treatment  Control  Filtered-1micron

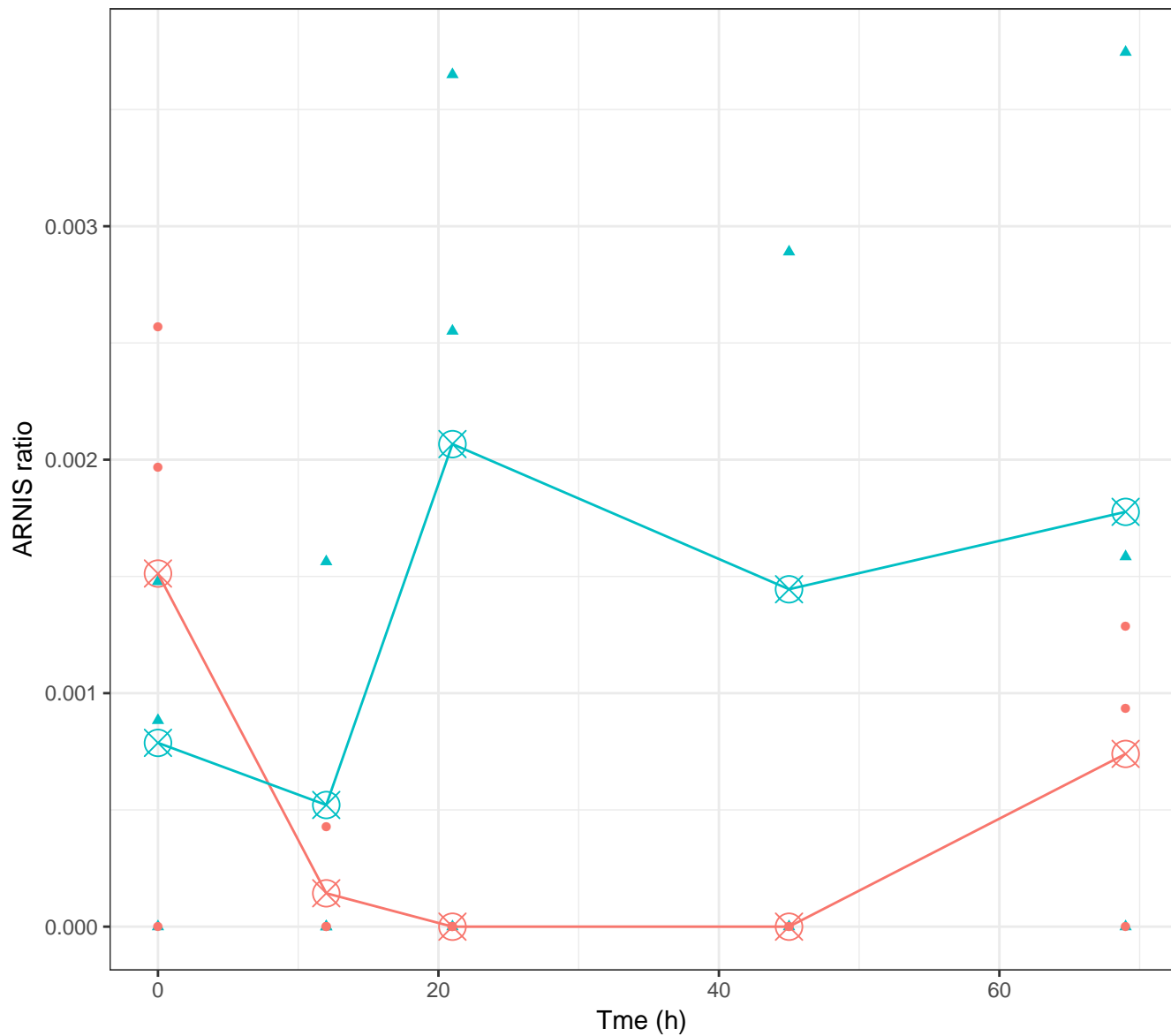


OTU.377_Actinobacteria_clade_acSTL

Treatment  Control  Filtered-1micron

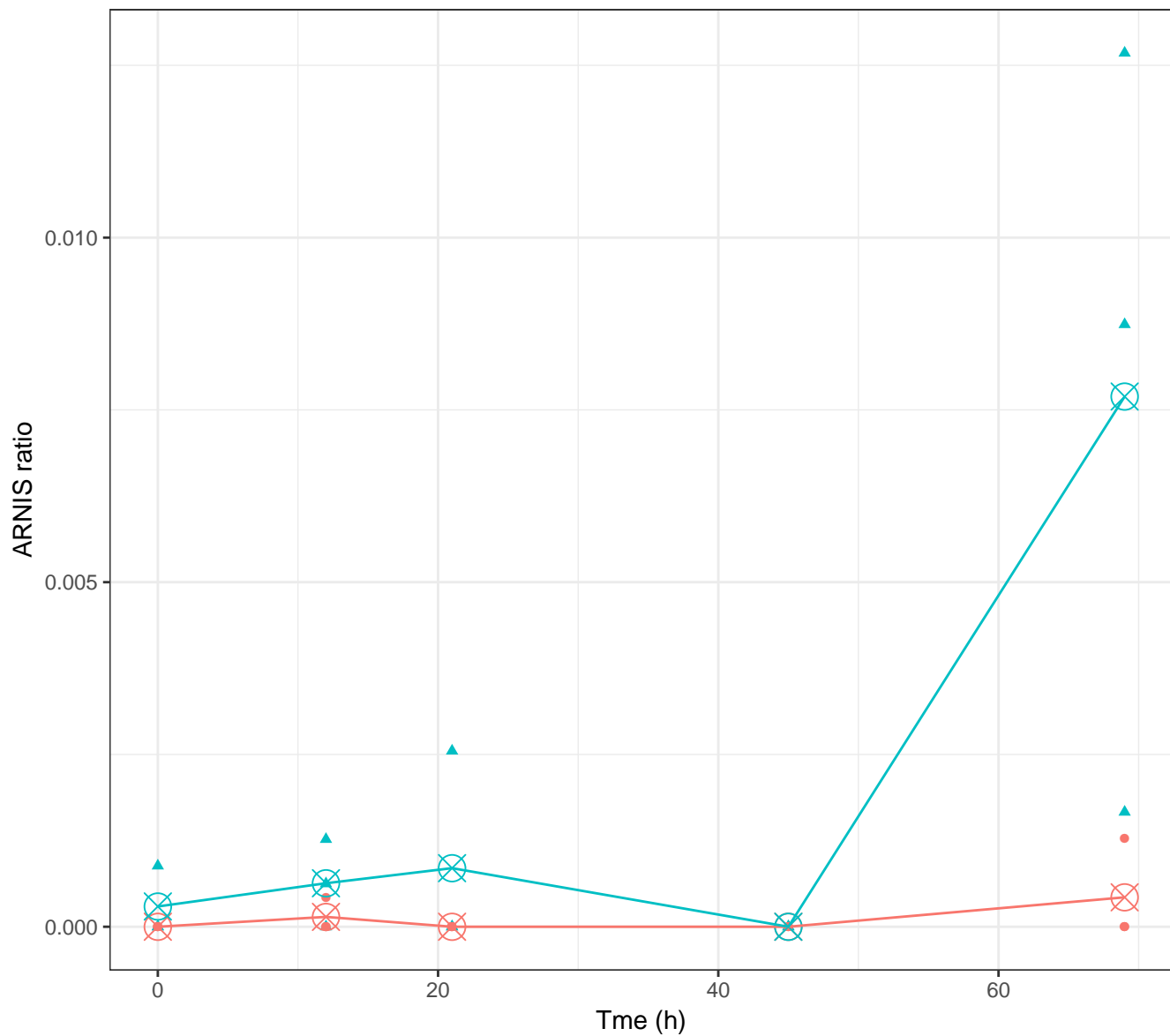
OTU.1606_Verrucomicrobia_Chthoniobacterales

Treatment ⊗ Control ⊗ Filtered-1micron



OTU.253_Bacteroidetes_Flavobacterium

Treatment ⊗ Control ⊗ Filtered-1micron



Supplementary Table 2. The list and sequences of CARD-FISH probes, competitors and helpers (H) used to verify the ARNIS approach. FA% – concentration of formamid in the hybridization buffer (at 37°C).

Probe	Target Group	Probe Sequence (5'-3')	Competitor/Helper Sequence (5'-3')	FA%	Reference
HGC69a	Actinobacteria	TATAGTTACCACCGCCGT	none	30	Roller et al 1994
Ac1-852	acI lineage of Actinobacteria	AATGCGTTAGCTGCGTCGCA	H1: AAACCGTGGAAGGTYCSCACA H2: TCCCCAGGCGGGGCRCTT	55	Warnecke et al 2005
ALF968	Alphaproteobacteria	GGTAAGGTTCTGCGCGTT	none	55	Neef 1997
CF968	Bacteroidetes	GGTAAGGTTCCCTCGCGTA	none	55	Acinas et al 2014
BET42a	Betaproteobacteria	GCCTTCCCACCTTCGTTT	Competitor: GCCTTCCCACATCGTTT	55	Manz et al 1992
CF319a	Cytophaga- Flavobacteria	TGGTCCGTGTCTCAGTAC	none	55	Manz et al 1996
R-BT065	<i>Limnohabitans</i> spp.	GTTGCCCCCTCTACCGTT	none	55	Šimek et al 2001

References

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- Manz W, Amann R, Ludwig W, Wagner M, Schleifer KH (1992). Phylogenetic Oligodeoxynucleotide Probes for the Major Subclasses of Proteobacteria - Problems and Solutions. *Syst Appl Microbiol* 15: 593-600.
- Manz W, Amann R, Ludwig W, Vancanneyt M, Schleifer KH (1996). Application of a suite of 16S rRNA-specific oligonucleotide probes designed to investigate bacteria of the phylum cytophaga-flavobacter-bacteroides in the natural environment. *Microbiology* 142: 1097-1106.
- Neef A (1997). Anwendung der in situ Einzelzell-Identifizierung von Bakterien zur Populationsanalyse in komplexen mikrobiellen Biozönosen, Technische Universität München.
- Roller C, Wagner M, Amann R, Ludwig W, Schleifer KH (1994). In situ probing of Gram-positive bacteria with high DNA G+C content using 23S rRNA-targeted oligonucleotides. *Microbiology* 140: 2849-2858.
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- Warnecke F, Sommaruga R, Sekar R, Hofer JS, Pernthaler J (2005). Abundances, identity, and growth state of actinobacteria in mountain lakes of different UV transparency. *Appl Environ Microbiol* 71: 5551-5559.

Supplementary Table 1. Expected (Exp.) and actual (Act., from microscopic counts) abundance of species in mock communities (10^5 cells mL⁻¹). Total bacterial abundance from DAPI counts.

Species	Phylum	M1		M2		M3		M4		M5	
		Exp.	Act.	Exp.	Act.	Exp.	Act.	Exp.	Act.	Exp.	Act.
<i>Rhodoluna</i>	Actinobacteria	1.5	0.4	2.4	2.0	3.1	1.5	6.5	4.8	4.7	4.9
<i>lacicola</i>	Microbacteriaceae										
<i>Sphingomonas</i>	Proteobacteria	3.4	2.6	3.3	2.7	1.4	1.0	17.6	16.9	18.2	14.8
sp. AAP5	Alphaproteobacteria										
<i>Flavobacterium</i>	Bacteroidetes	0.08	0.8	0.08	3.7	0.7	1.6	8.8	11.1	22.7	20.5
sp.	Flavobacteriia										
<i>Gemmatimonas</i>	Gemmaminonadetes	0.05	0.1	1.1	2.5	4.7	2.5	17.2	18.0	7.8	8.7
<i>phototrophica</i>											
Total bacterial abundance		5.1	3.9	6.9	11.1	9.8	6.7	50.0	50.8	53.4	48.9