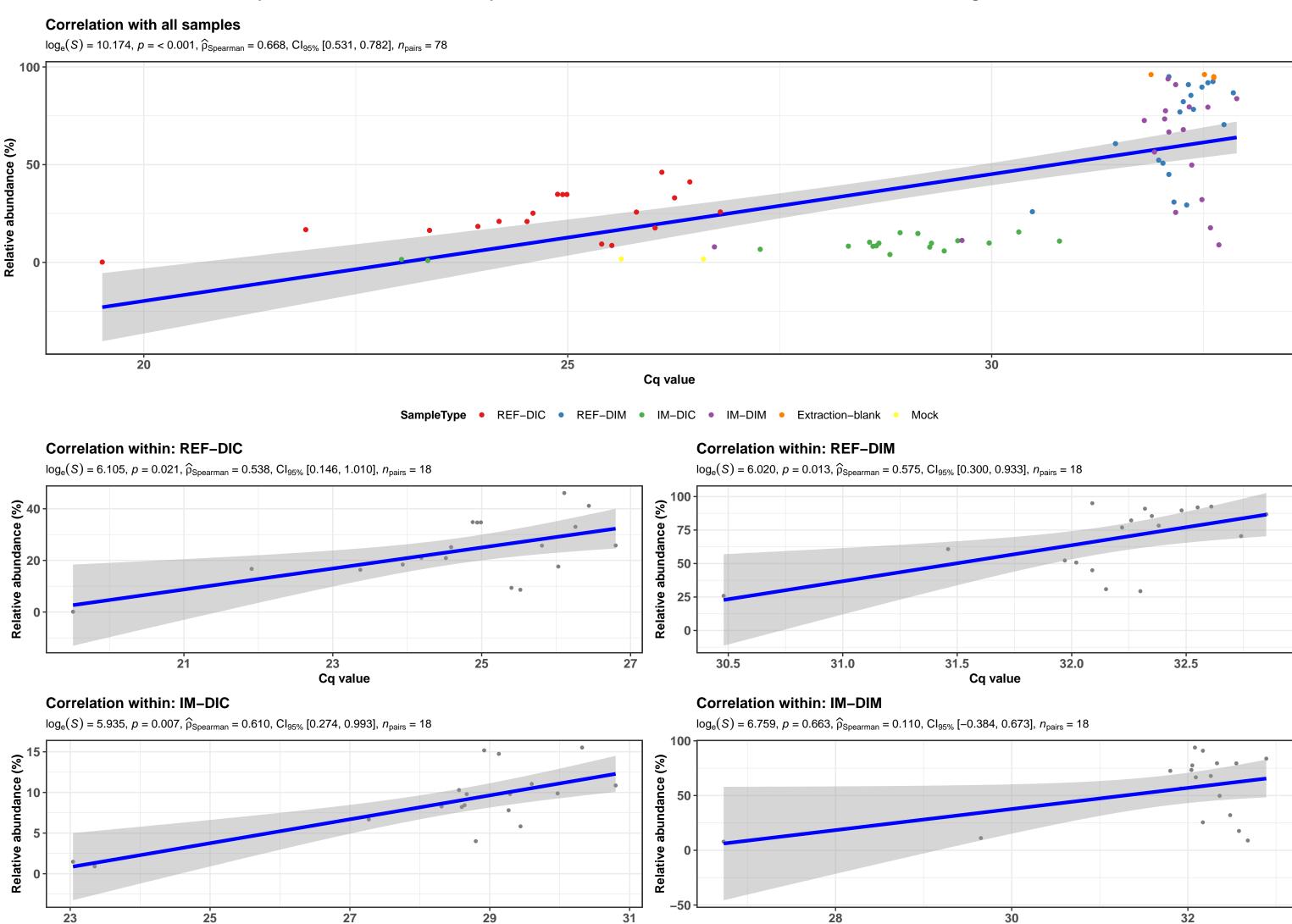
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA



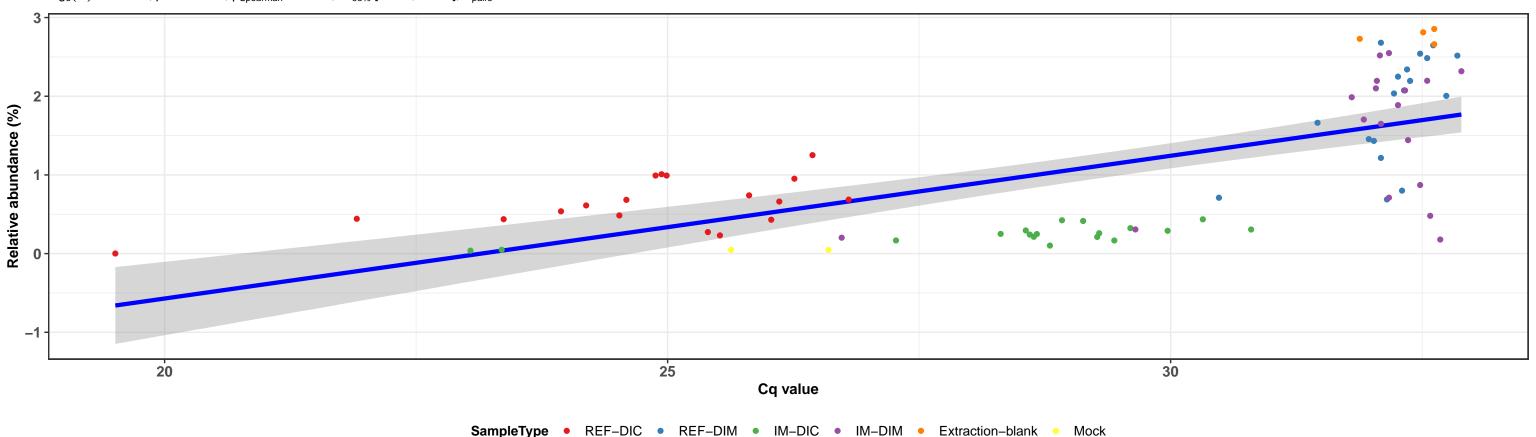
Cq value

Cq value

k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA

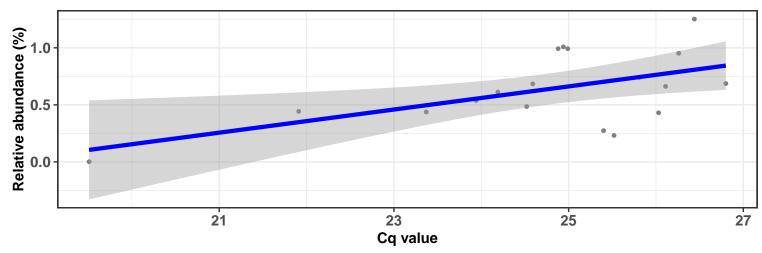


 $log_e(S) = 10.184$ , p = < 0.001,  $\hat{\rho}_{Spearman} = 0.665$ ,  $Cl_{95\%}$  [0.527, 0.827],  $n_{pairs} = 78$ 



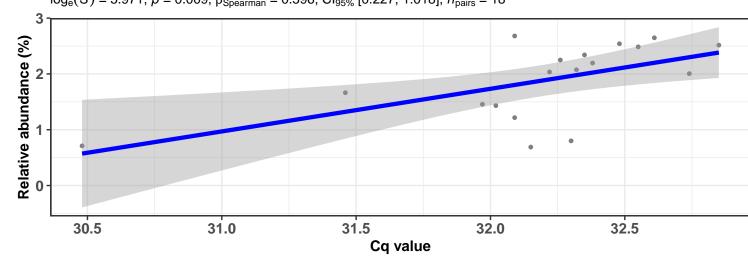
# **Correlation within: REF-DIC**

 $log_e(S) = 6.314$ , p = 0.075,  $\widehat{\rho}_{Spearman} = 0.430$ ,  $Cl_{95\%}$  [-0.020, 0.886],  $n_{pairs} = 18$ 



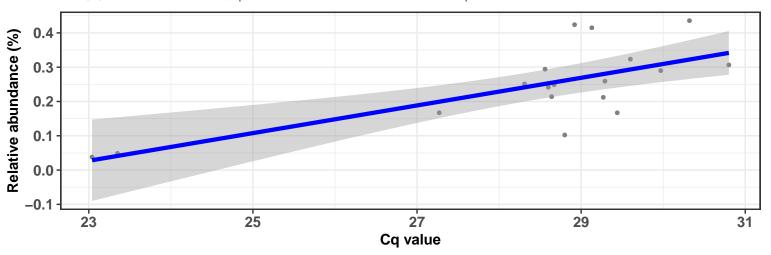
# **Correlation within: REF-DIM**

 $log_e(S) = 5.971$ , p = 0.009,  $\hat{\rho}_{Spearman} = 0.596$ ,  $Cl_{95\%}$  [0.227, 1.018],  $n_{pairs} = 18$ 



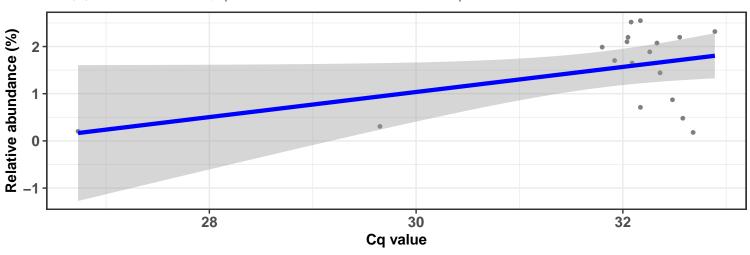
### Correlation within: IM-DIC

 $log_e(S) = 5.971$ , p = 0.009,  $\hat{\rho}_{Spearman} = 0.595$ ,  $Cl_{95\%}$  [0.216, 1.034],  $n_{pairs} = 18$ 

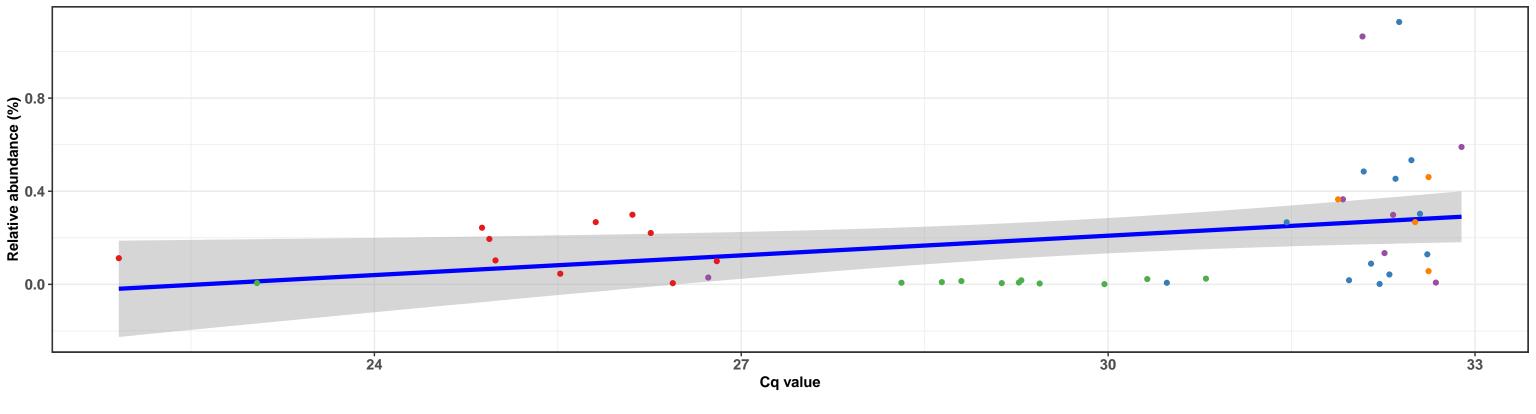


### **Correlation within: IM-DIM**

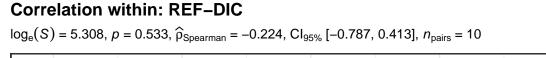
 $log_e(S) = 6.821, p = 0.832, \hat{\rho}_{Spearman} = 0.054, Cl_{95\%} [-0.498, 0.584], n_{pairs} = 18$ 

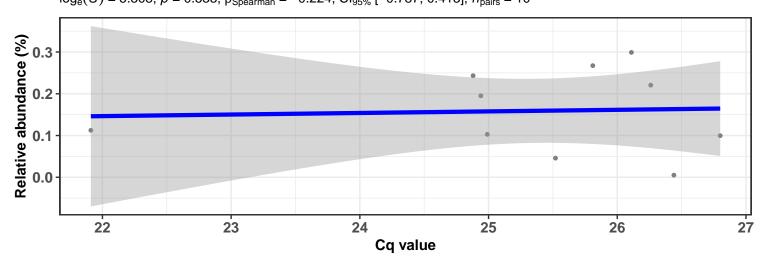


 $log_e(S) = 9.123$ , p = 0.018,  $\hat{\rho}_{Spearman} = 0.354$ ,  $Cl_{95\%}$  [0.064, 0.662],  $n_{pairs} = 44$ 



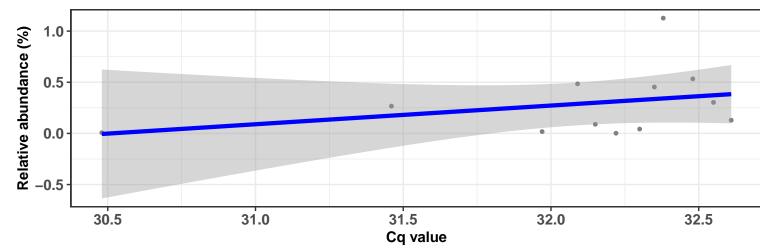






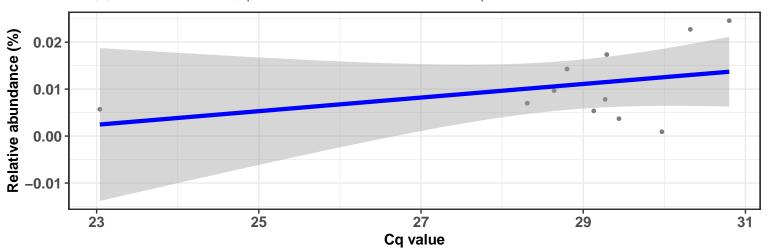
# **Correlation within: REF-DIM**

 $log_e(S) = 5.024, p = 0.124, \hat{\rho}_{Spearman} = 0.469, Cl_{95\%} [0.000, 1.049], n_{pairs} = 12$ 



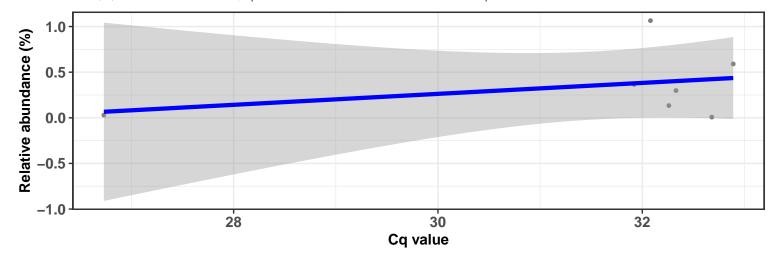
### Correlation within: IM-DIC

 $log_e(S) = 5.063$ , p = 0.401,  $\hat{\rho}_{Spearman} = 0.282$ ,  $Cl_{95\%}$  [-0.466, 1.101],  $n_{pairs} = 11$ 



# Correlation within: IM-DIM

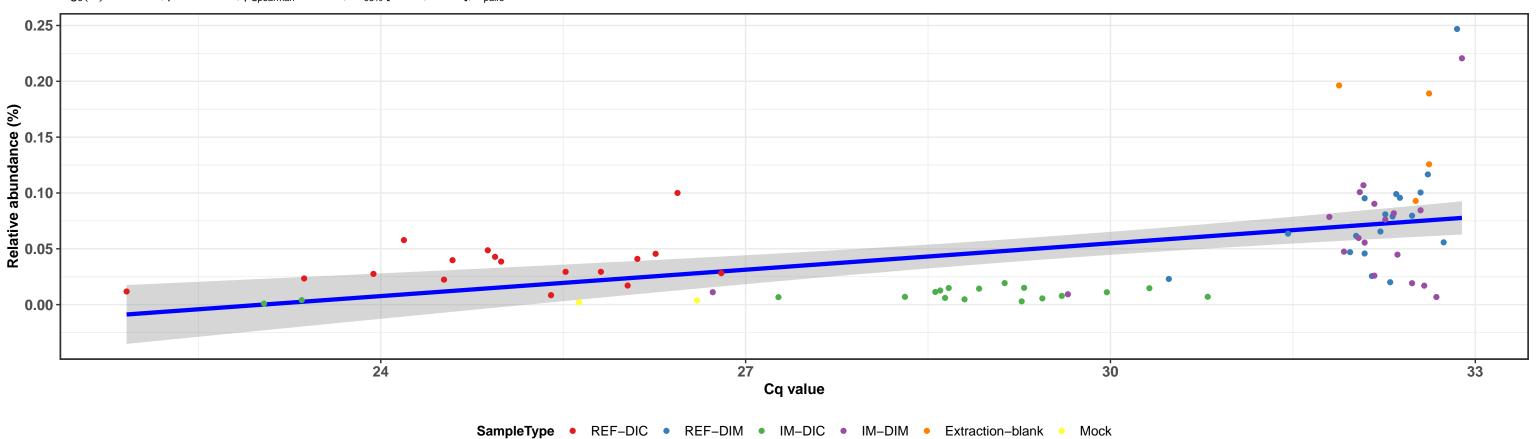
 $log_e(S) = 3.989, p = 0.939, \hat{\rho}_{Spearman} = 0.036, Cl_{95\%} [-0.901, 1.031], n_{pairs} = 7$ 



k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA

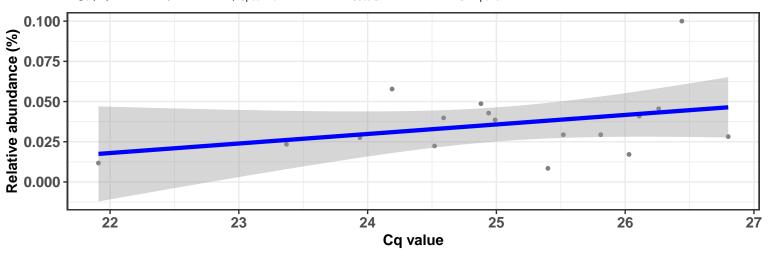


 $log_e(S) = 10.412, p = < 0.001, \hat{\rho}_{Spearman} = 0.563, Cl_{95\%} [0.381, 0.766], n_{pairs} = 77$ 



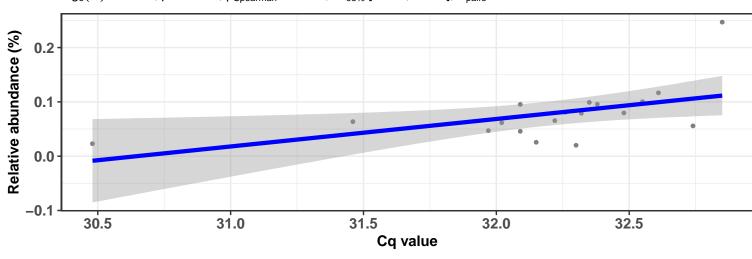
### Correlation within: REF-DIC

 $log_e(S) = 6.370, p = 0.269, \hat{\rho}_{Spearman} = 0.284, Cl_{95\%} [-0.277, 0.837], n_{pairs} = 17$ 



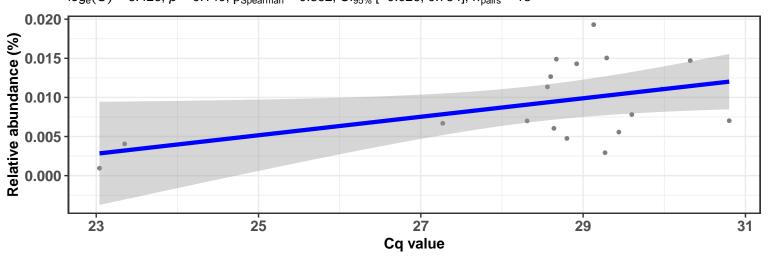
# Correlation within: REF-DIM

 $log_e(S) = 5.882, p = 0.005, \hat{\rho}_{Spearman} = 0.630, Cl_{95\%} [0.259, 1.051], n_{pairs} = 18$ 



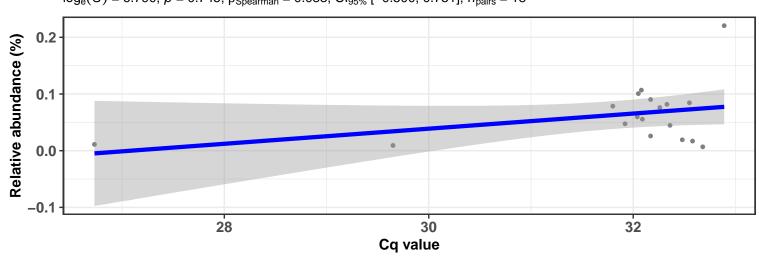
# Correlation within: IM-DIC

 $log_e(S) = 6.426$ , p = 0.140,  $\widehat{\rho}_{Spearman} = 0.362$ ,  $Cl_{95\%}$  [-0.026, 0.754],  $n_{pairs} = 18$ 

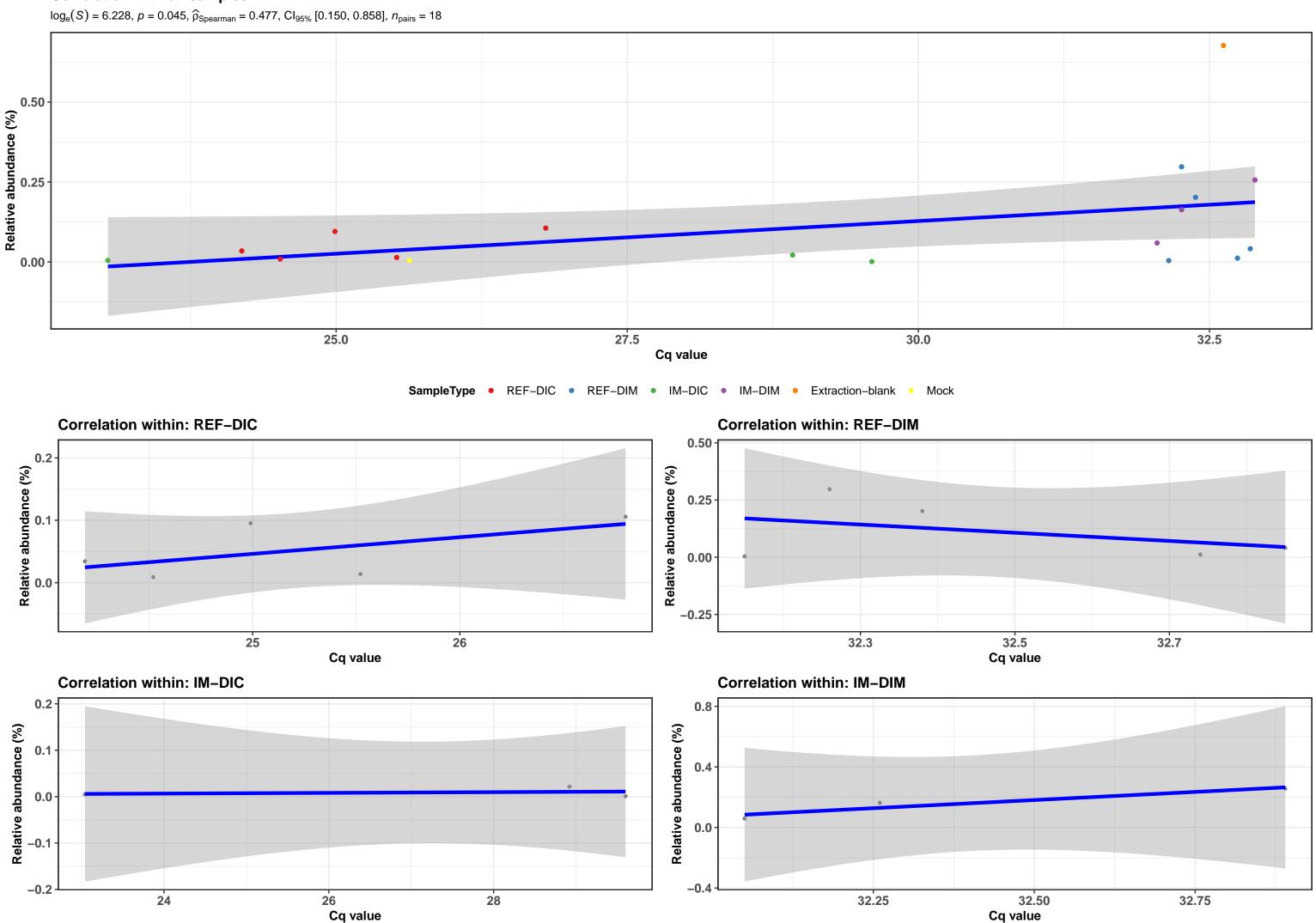


# Correlation within: IM-DIM

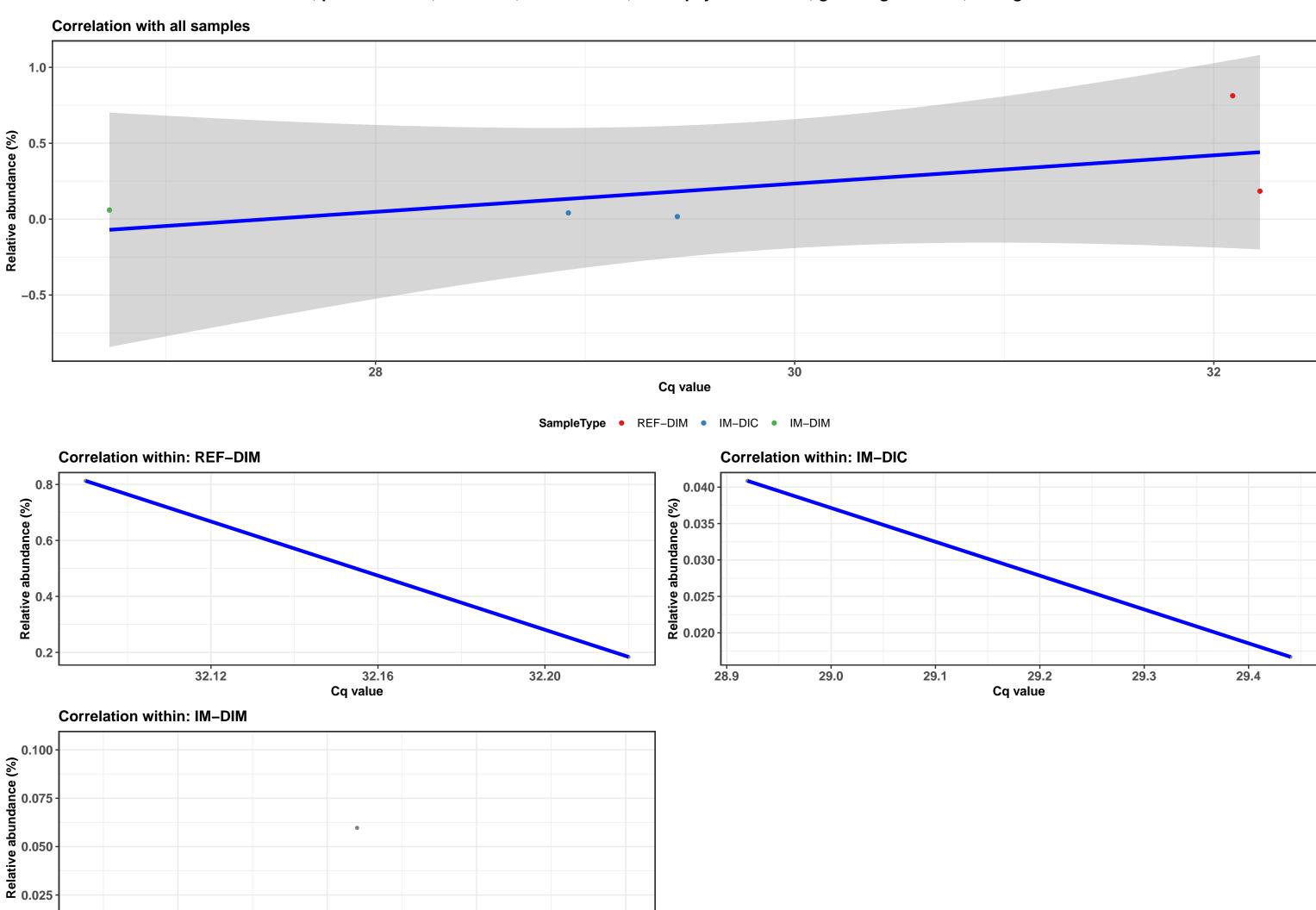
 $log_e(S) = 6.790, p = 0.745, \hat{\rho}_{Spearman} = 0.083, Cl_{95\%} [-0.500, 0.751], n_{pairs} = 18$ 



k\_\_Bacteria; p\_\_Actinobacteria; c\_\_Actinobacteria; o\_\_Micrococcales; f\_\_Microbacteriaceae; g\_\_Curtobacterium; Ambiguous\_taxa



k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Staphylococcaceae; g\_\_Jeotgalicoccus; Ambiguous\_taxa



26.775

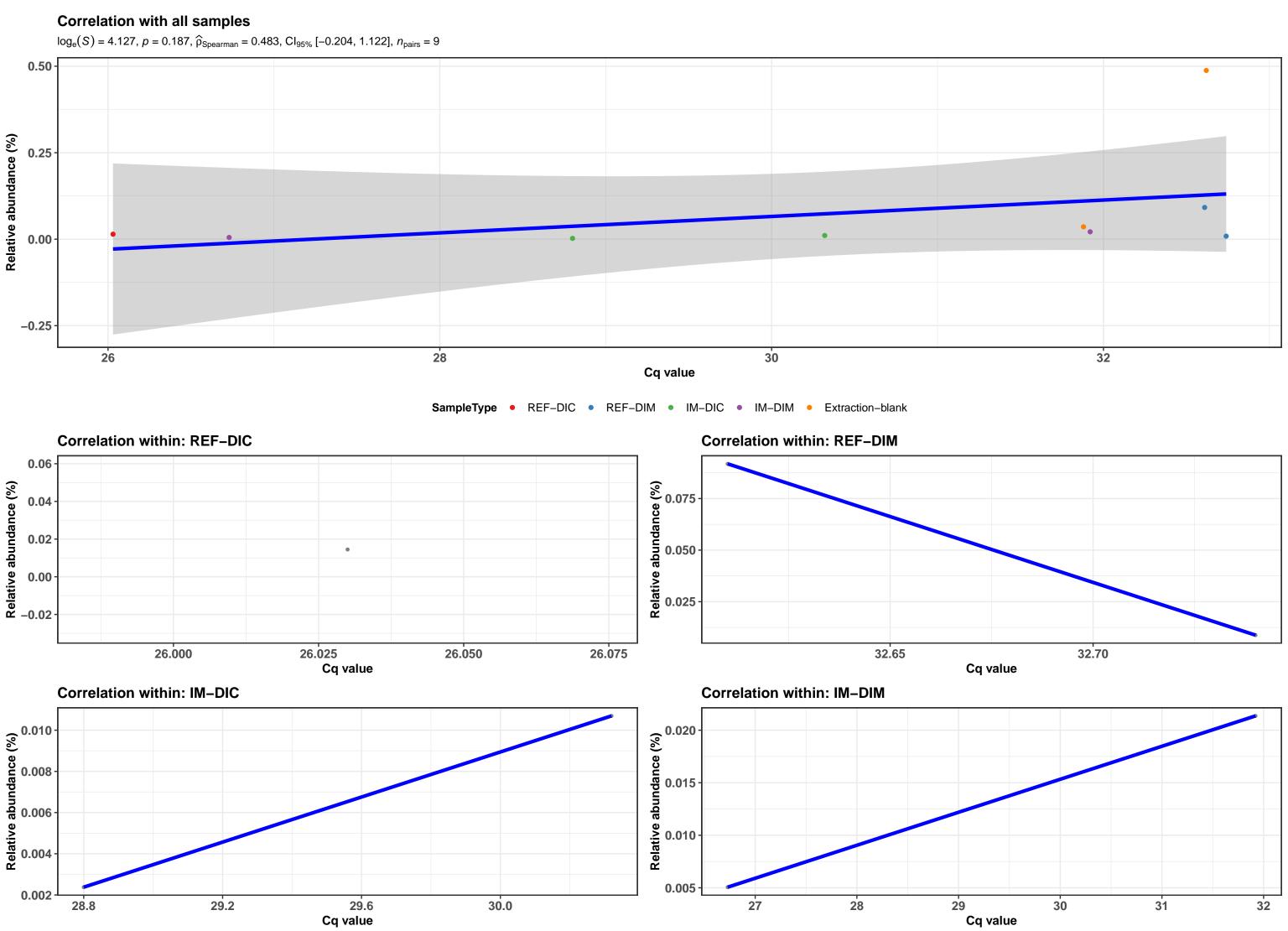
26.700

26.725

Cq value

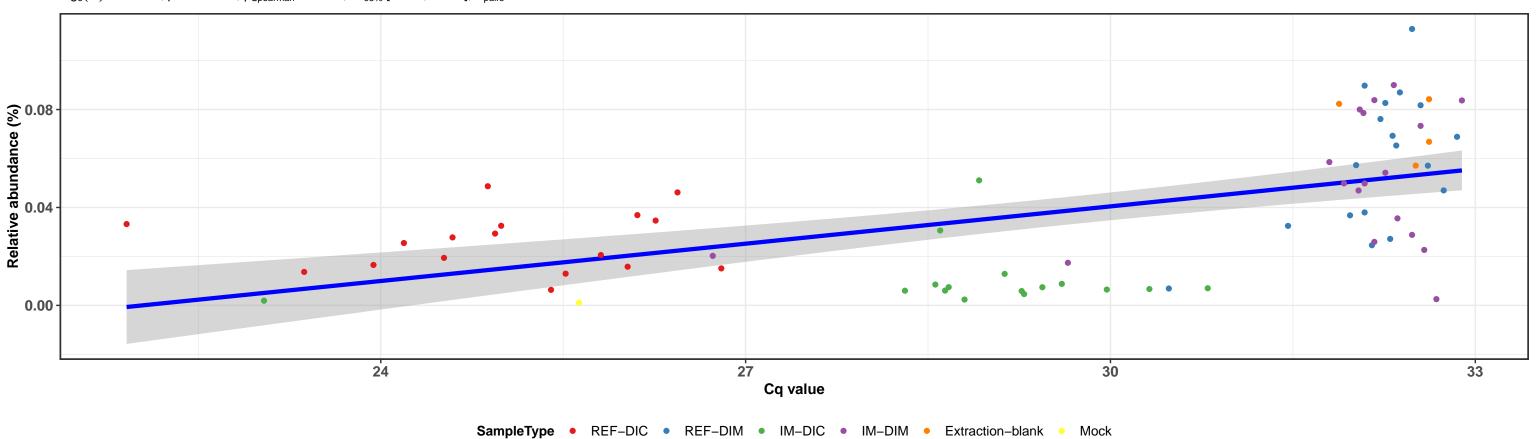
26.750

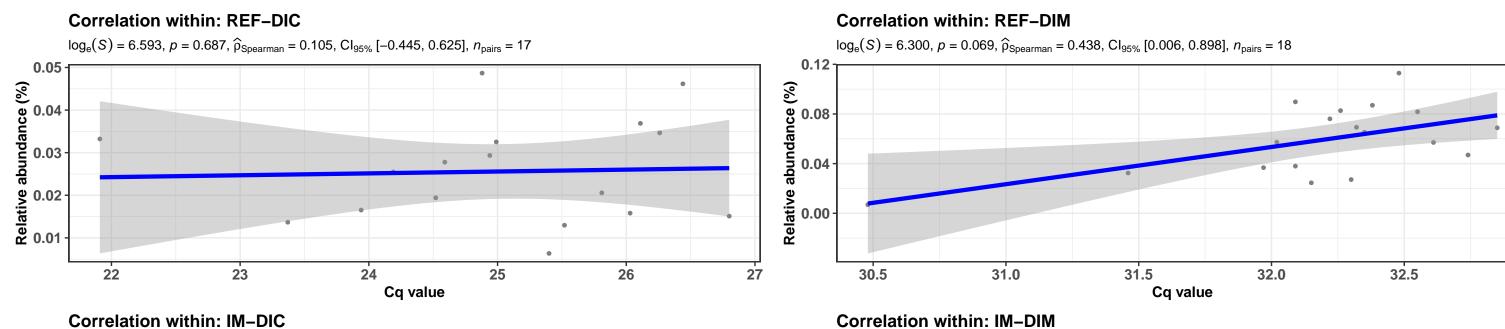
k\_\_Bacteria; p\_\_Actinobacteria; c\_\_Actinobacteria; o\_\_Frankiales; f\_\_Geodermatophilaceae; g\_\_Modestobacter; Ambiguous\_taxa

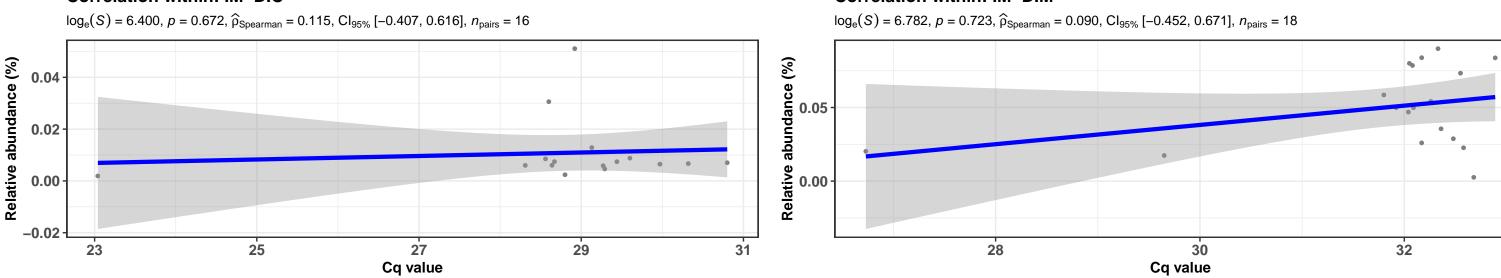


k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA

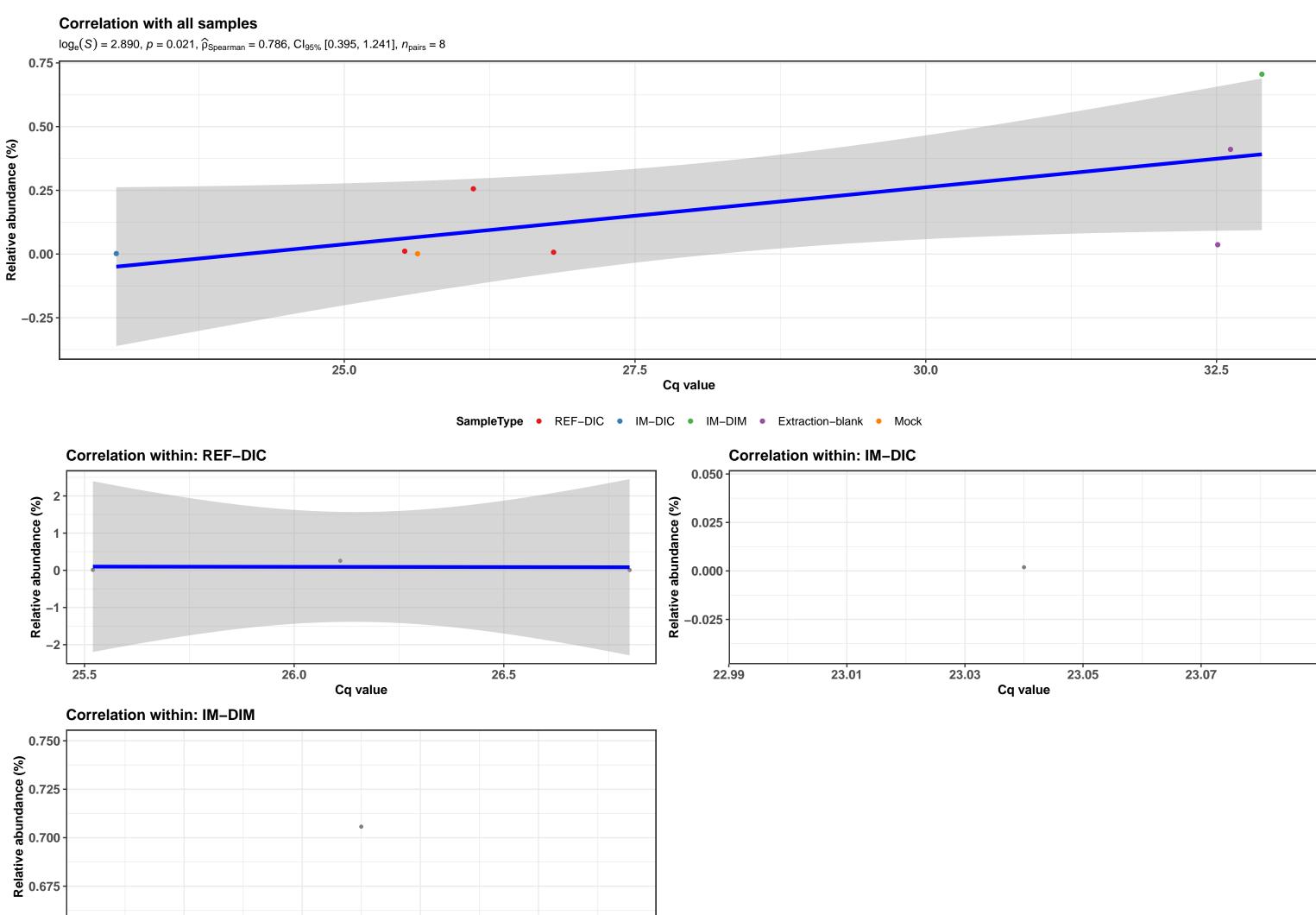
 $log_e(S) = 10.265, p = < 0.001, \hat{\rho}_{Spearman} = 0.575, Cl_{95\%} [0.437, 0.725], n_{pairs} = 74$ 







k\_\_Bacteria; p\_\_Bacteroidetes; c\_\_Bacteroidia; o\_\_Cytophagales; f\_\_Hymenobacteraceae; g\_\_Hymenobacter; s\_\_uncultured bacterium



32.88

32.90

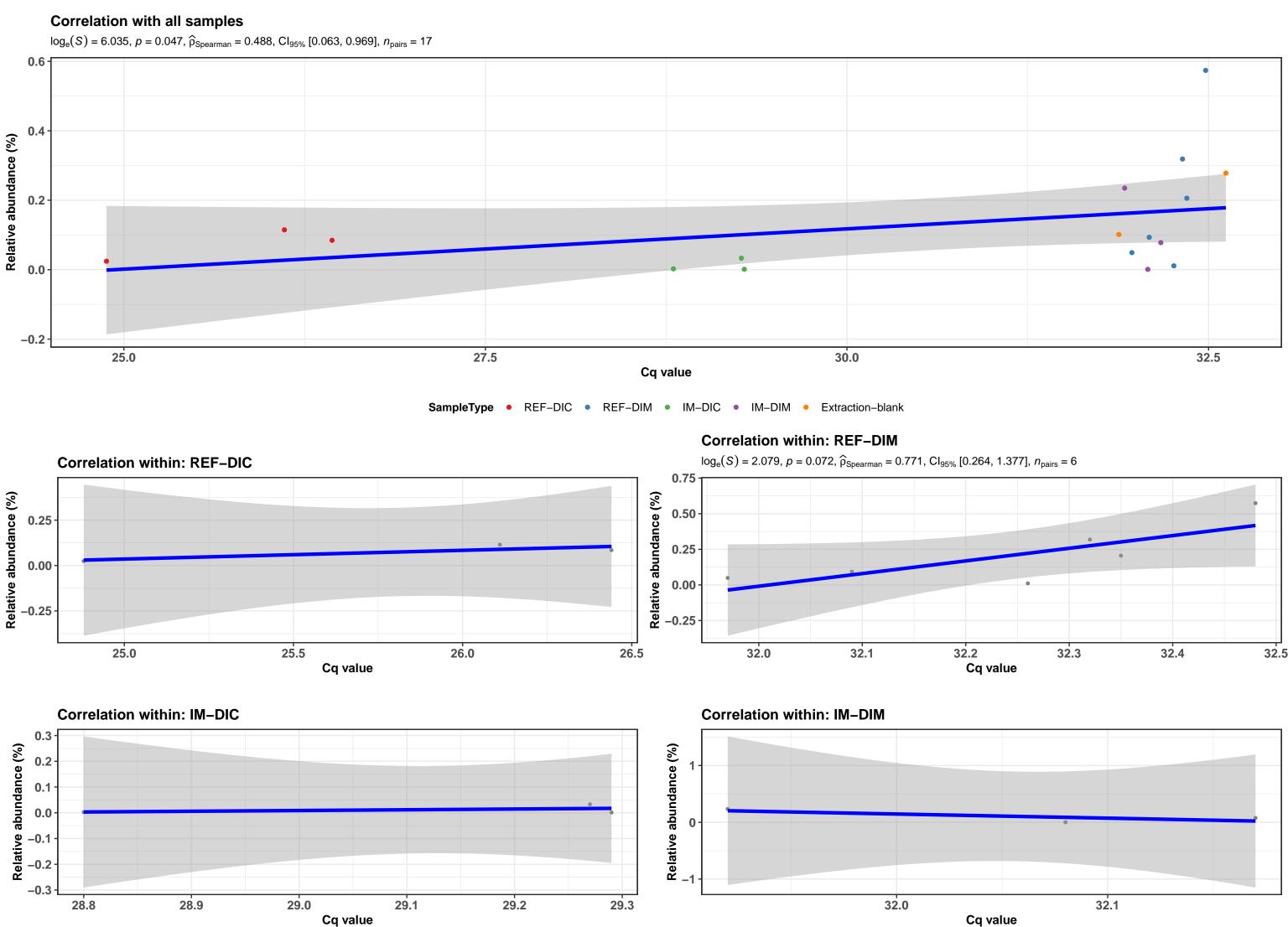
Cq value

32.92

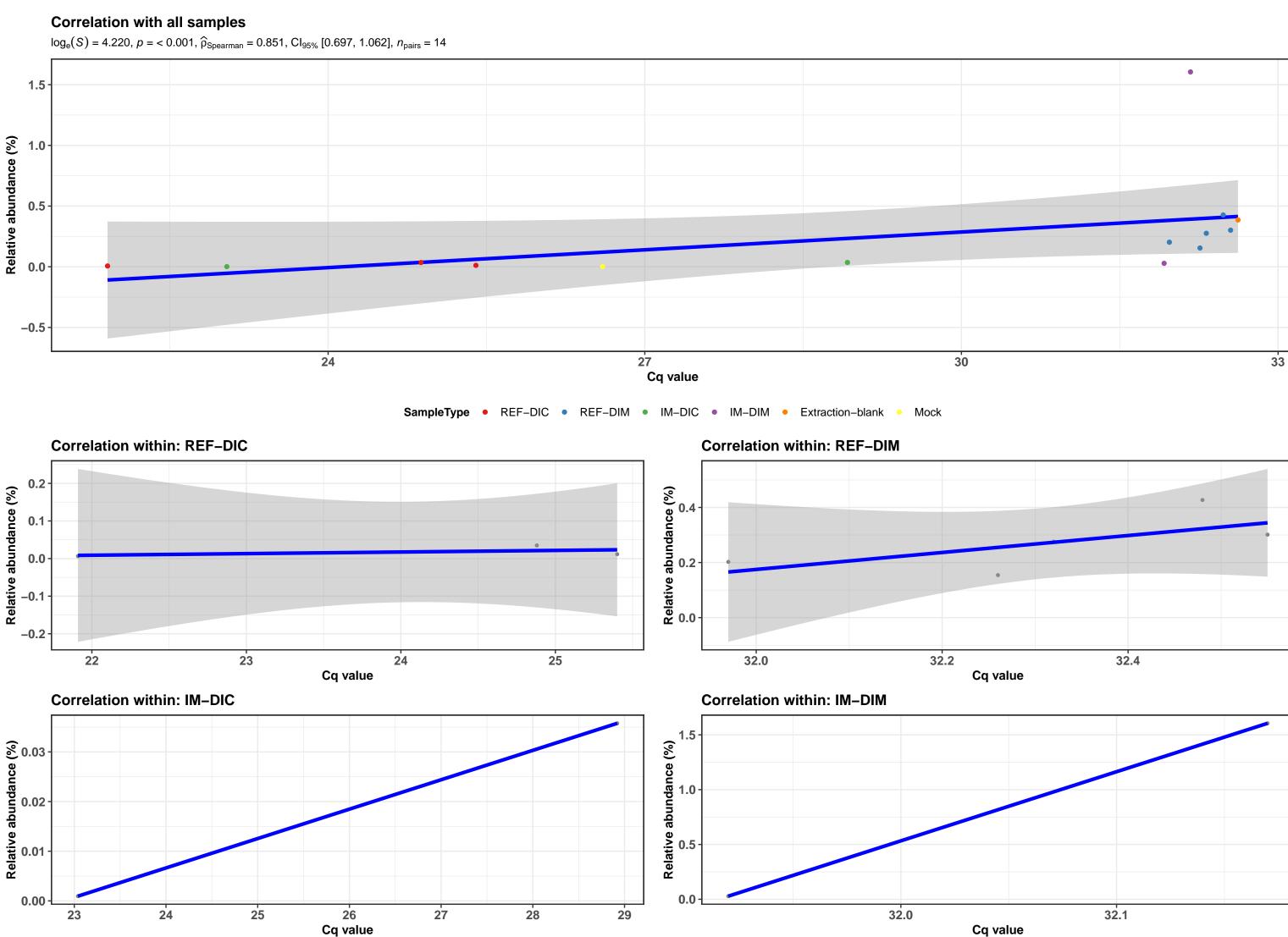
32.86

32.84

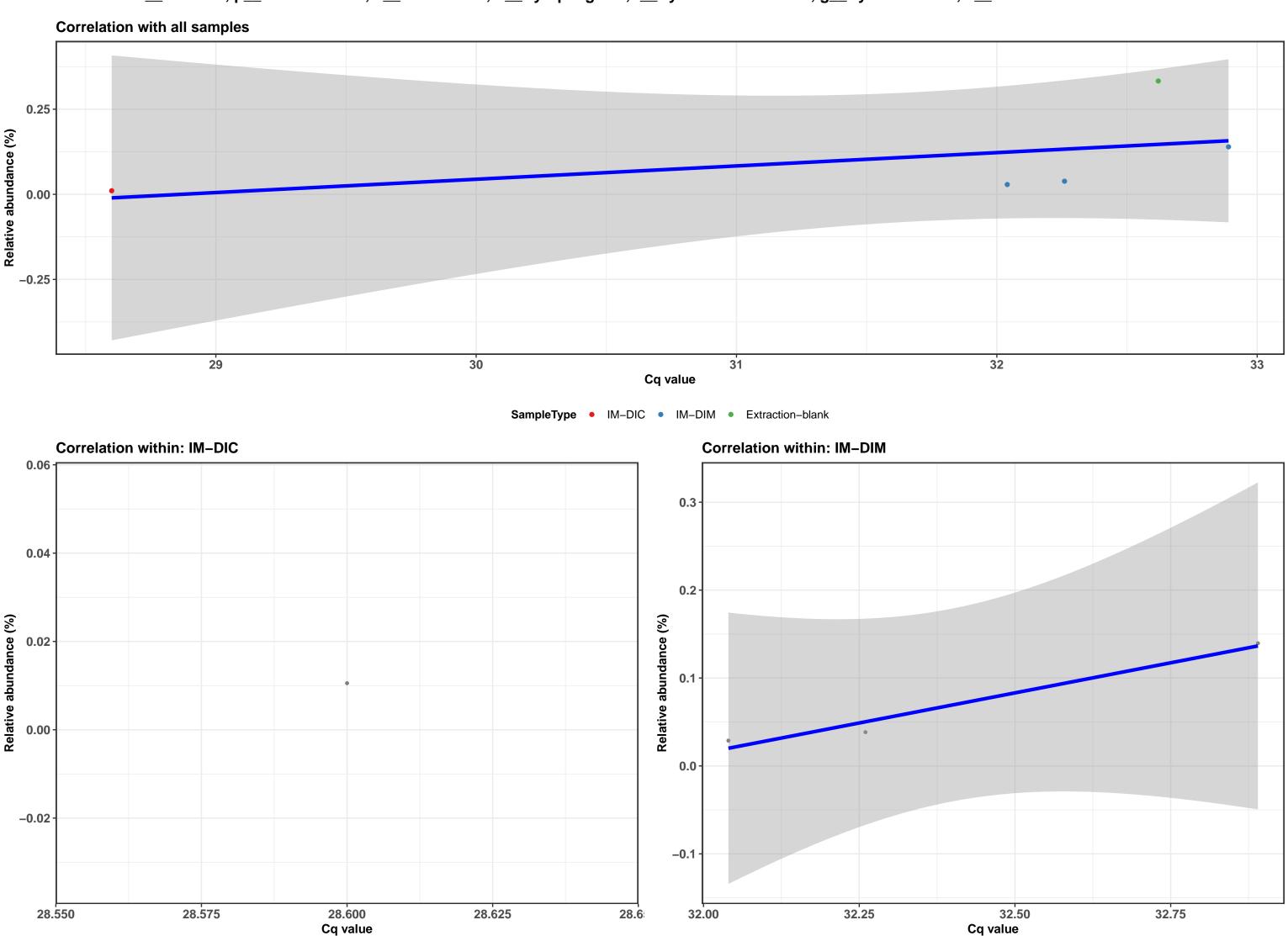
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Caulobacterales; f\_\_Caulobacteraceae; g\_\_Brevundimonas; Ambiguous\_taxa



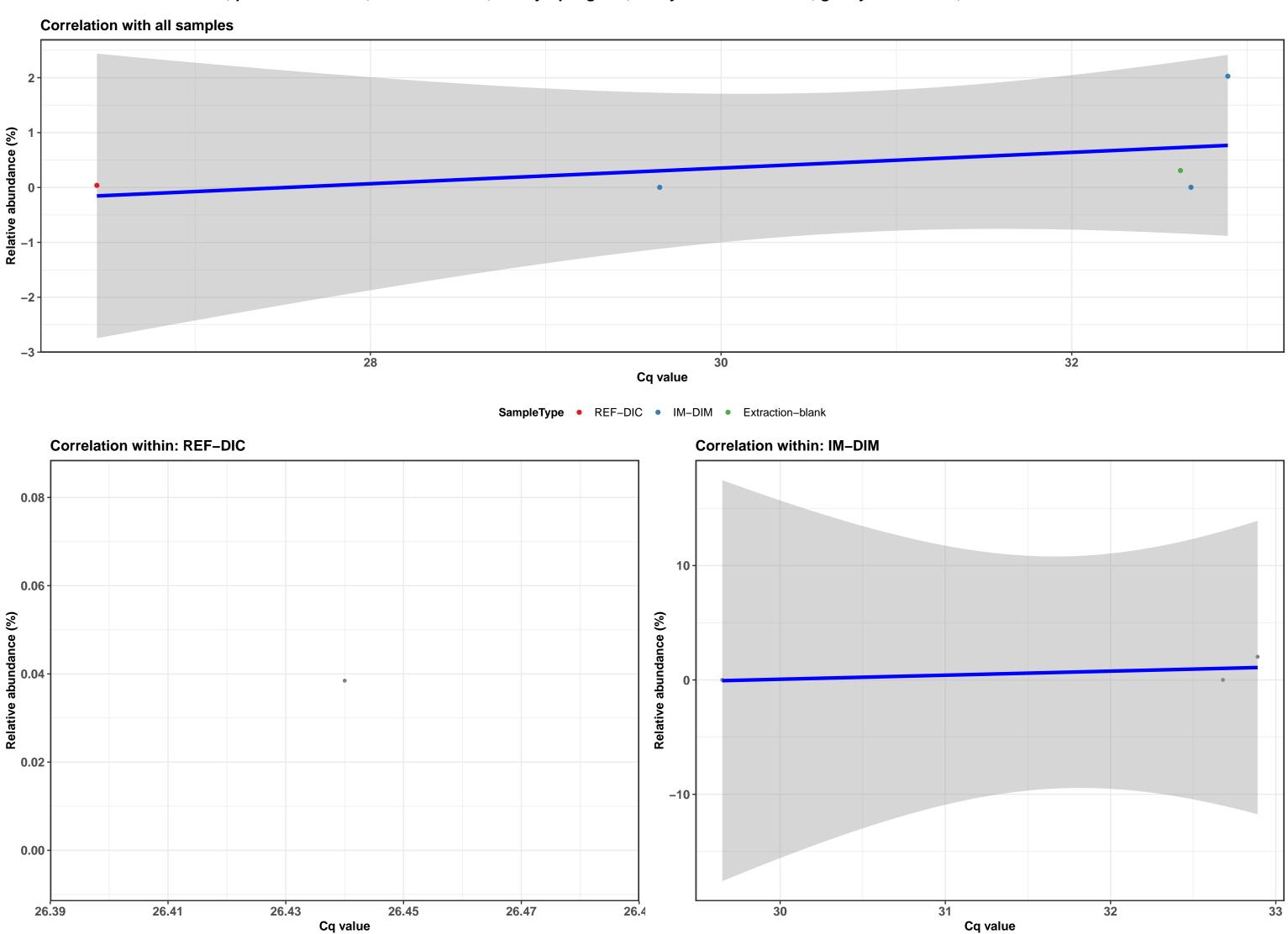
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Caulobacterales; f\_\_Caulobacteraceae; g\_\_Brevundimonas; Ambiguous\_taxa



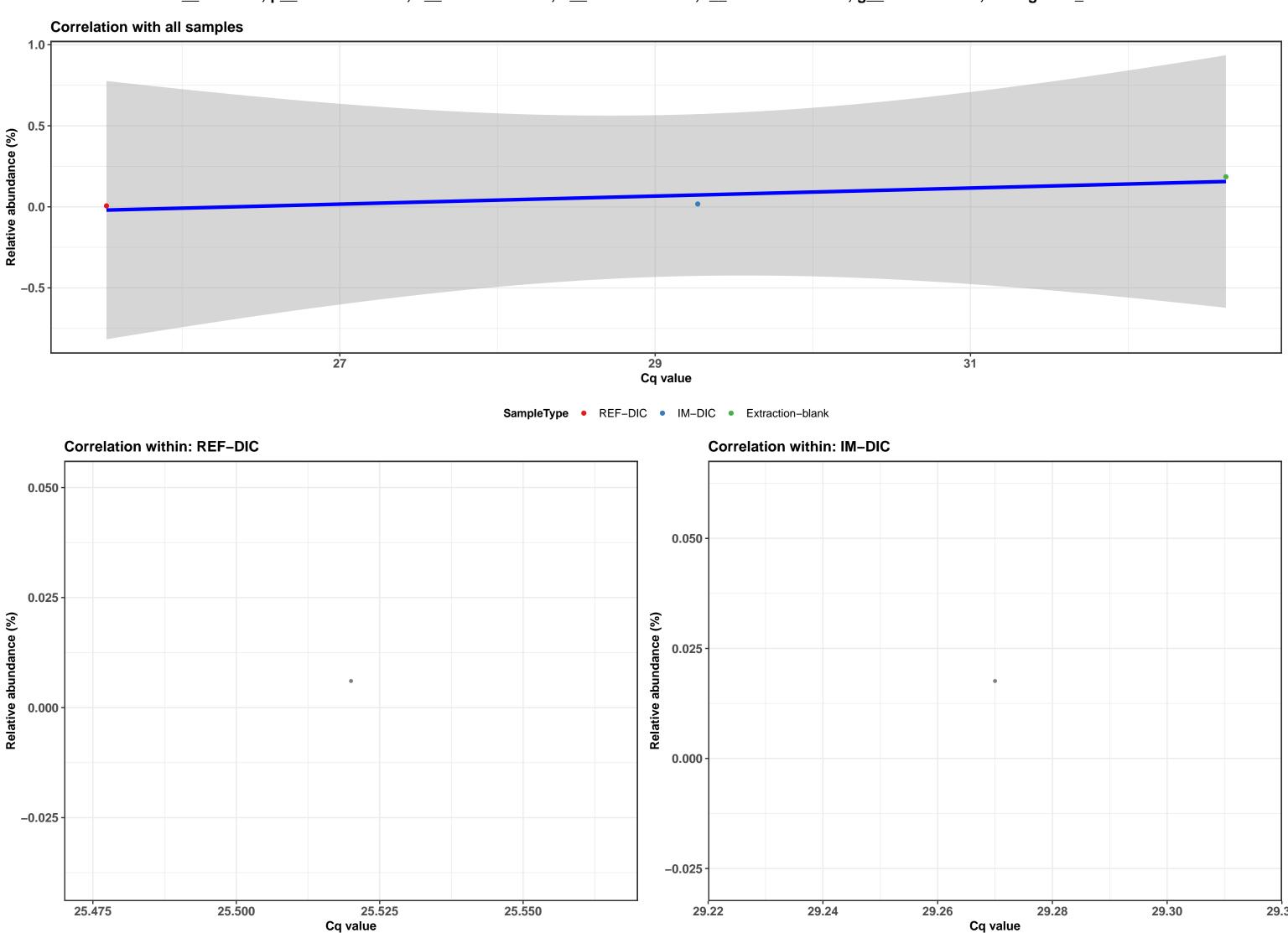
k\_\_Bacteria; p\_\_Bacteroidetes; c\_\_Bacteroidia; o\_\_Cytophagales; f\_\_Hymenobacteraceae; g\_\_Hymenobacter; s\_\_uncultured bacterium



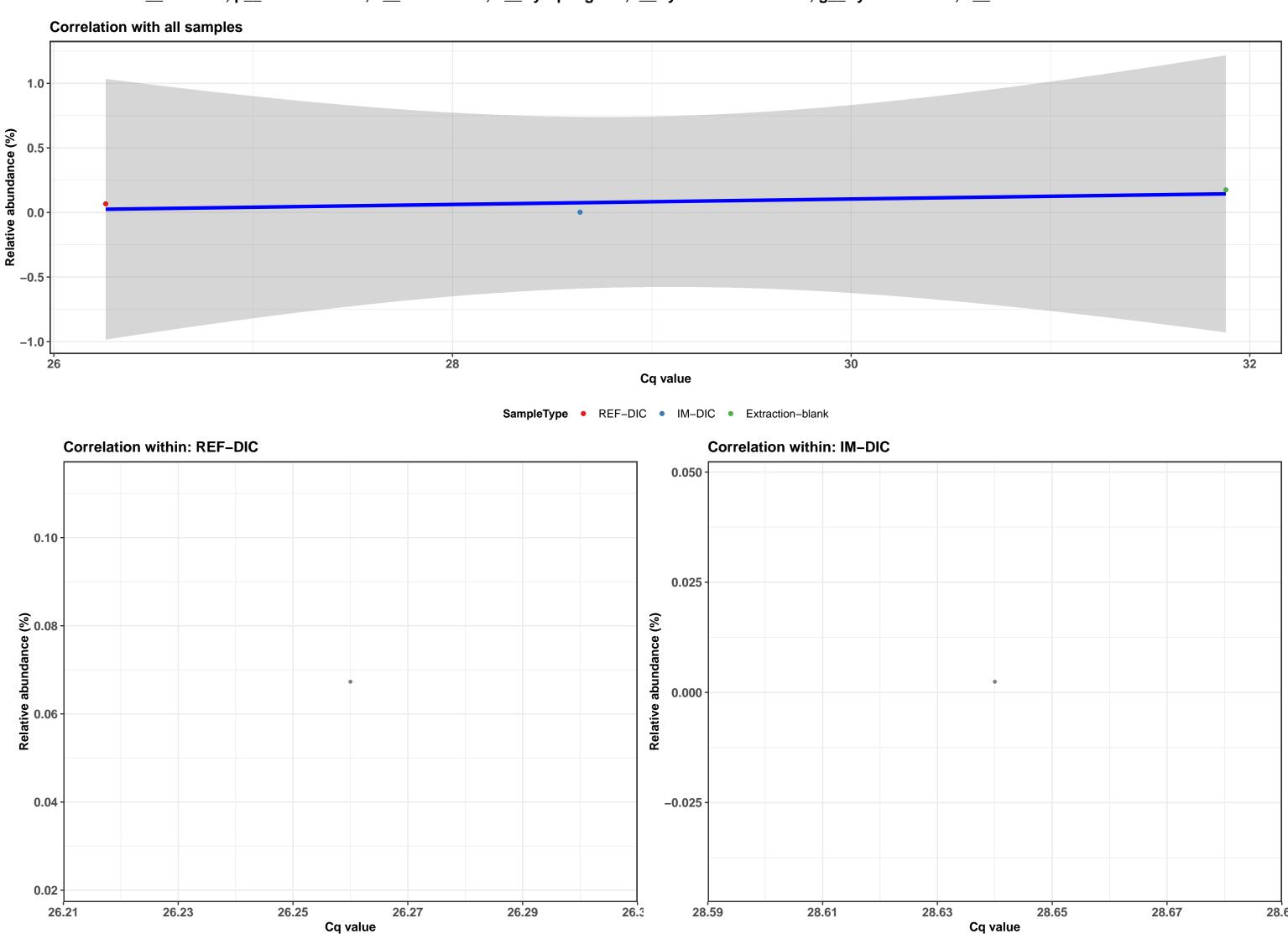
k\_\_Bacteria; p\_\_Bacteroidetes; c\_\_Bacteroidia; o\_\_Cytophagales; f\_\_Hymenobacteraceae; g\_\_Hymenobacter; s\_\_uncultured bacterium



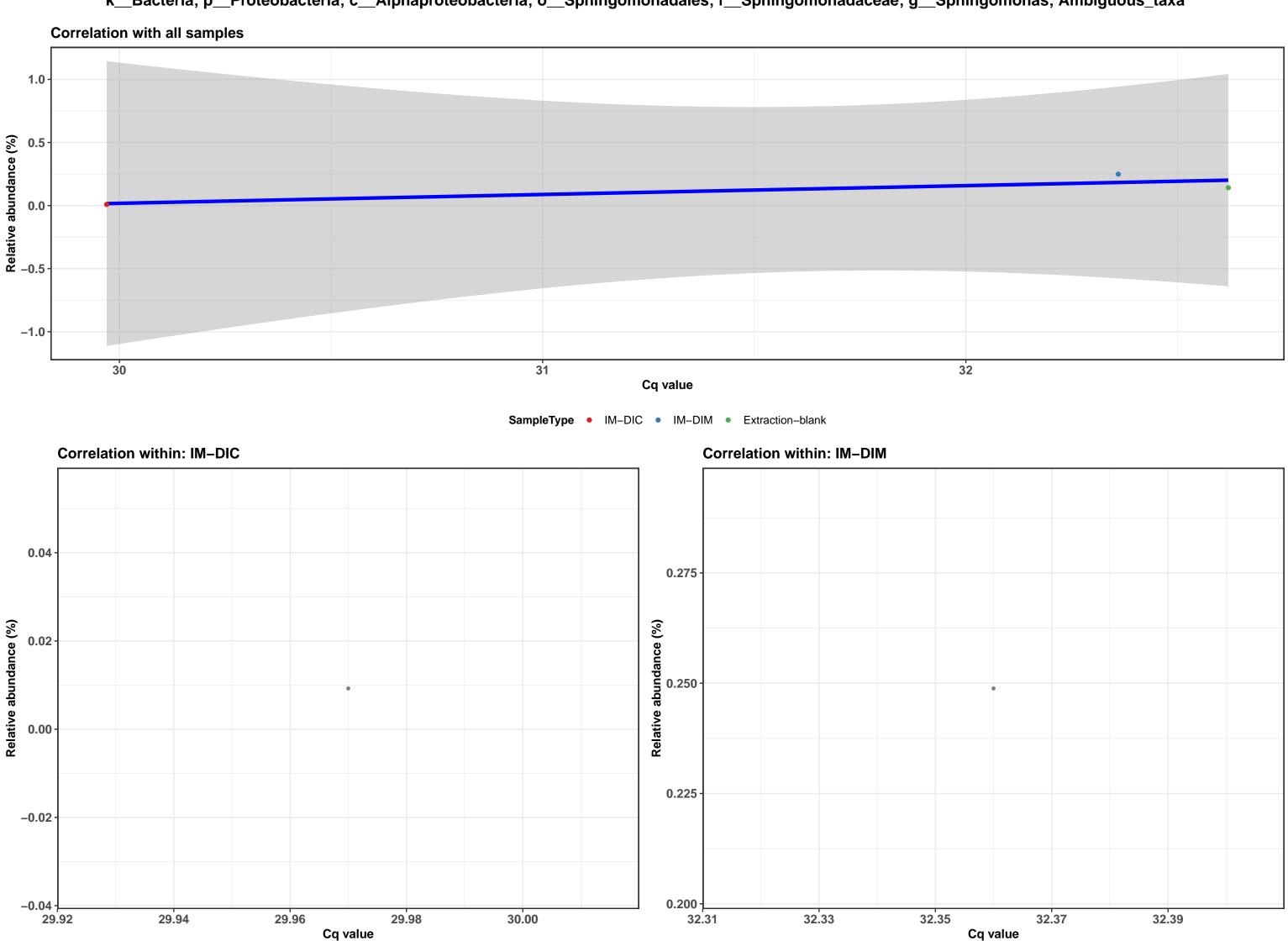
k\_\_Bacteria; p\_\_Actinobacteria; c\_\_Actinobacteria; o\_\_Micrococcales; f\_\_Micrococcaceae; g\_\_Micrococcus; Ambiguous\_taxa



k\_\_Bacteria; p\_\_Bacteroidetes; c\_\_Bacteroidia; o\_\_Cytophagales; f\_\_Hymenobacteraceae; g\_\_Hymenobacter; s\_\_uncultured bacterium



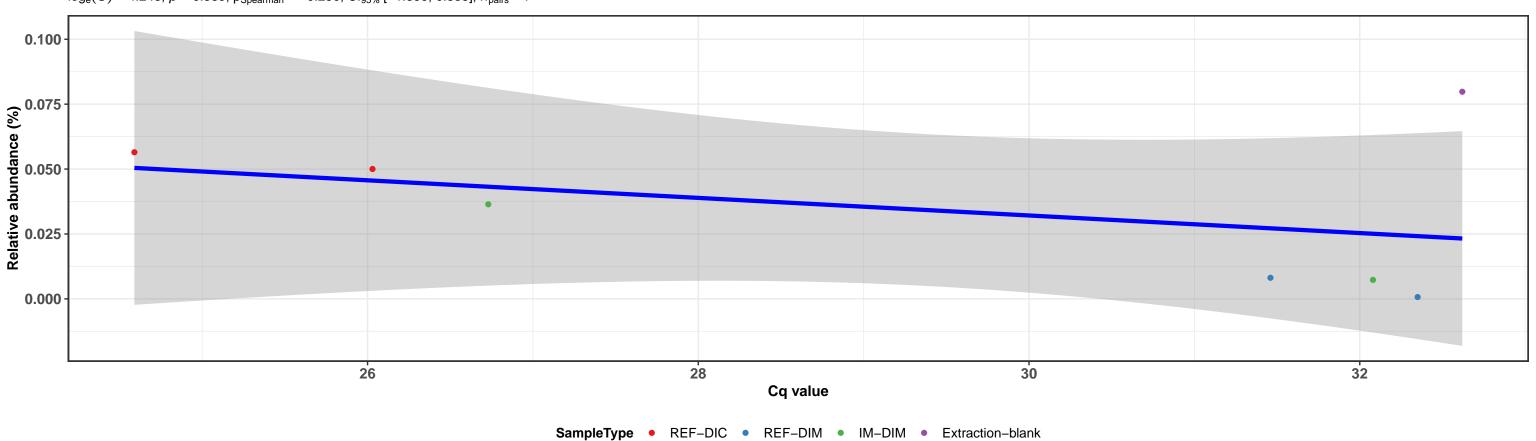
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Sphingomonadales; f\_\_Sphingomonadaceae; g\_\_Sphingomonas; Ambiguous\_taxa

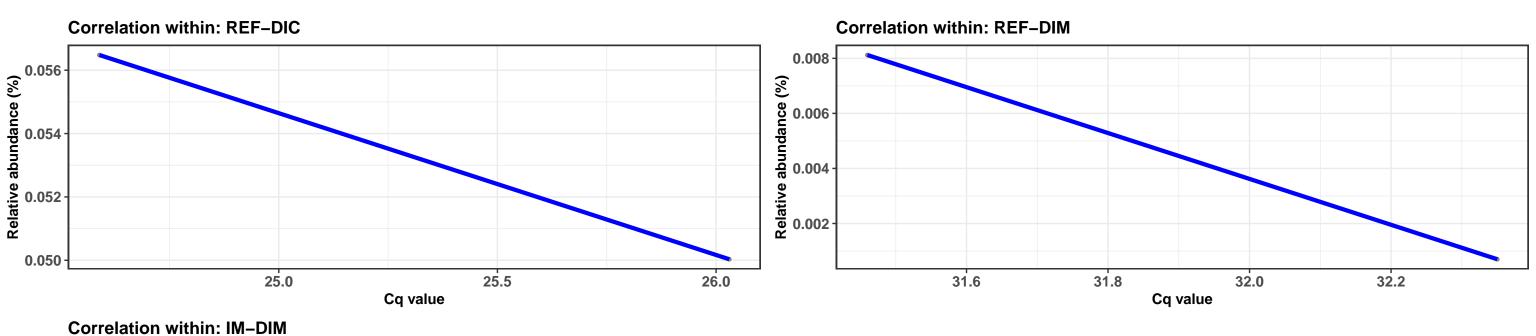


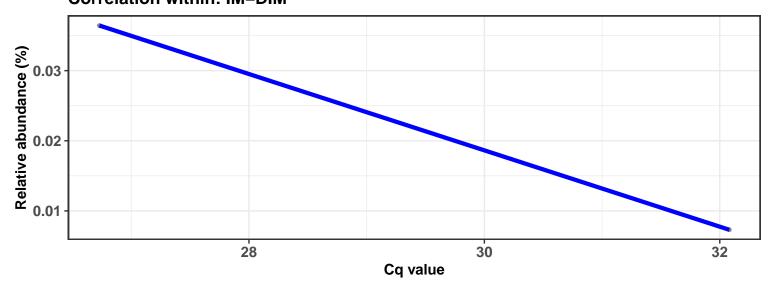
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Sphingomonadales; f\_\_Sphingomonadaceae; g\_\_Sphingomonas; Ambiguous\_taxa



 $log_e(S) = 4.248, p = 0.589, \hat{\rho}_{Spearman} = -0.250, Cl_{95\%} [-1.399, 0.838], n_{pairs} = 7$ 



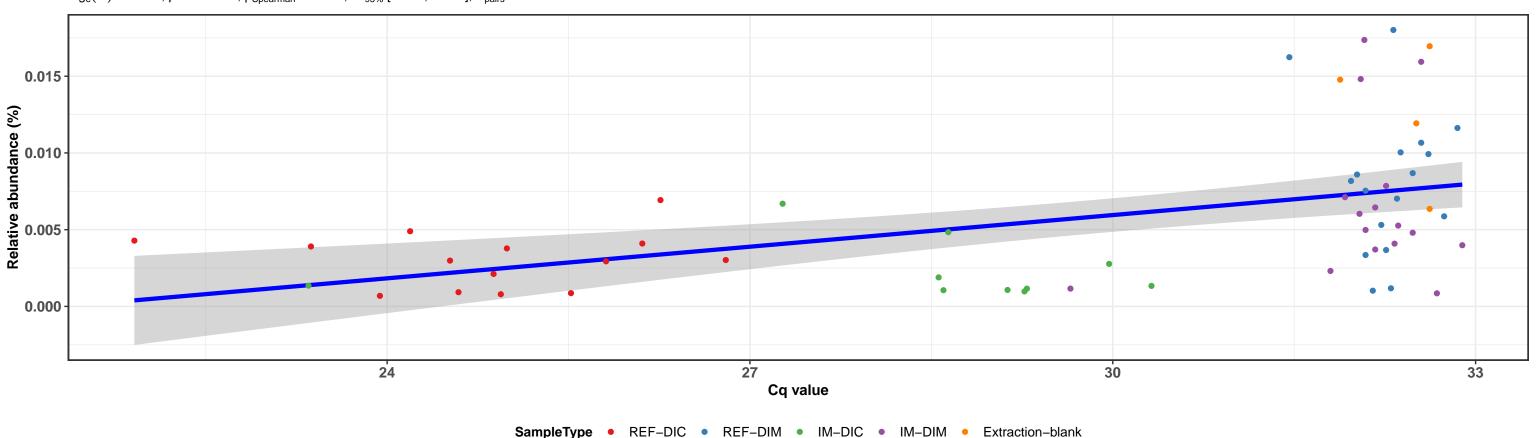




k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA

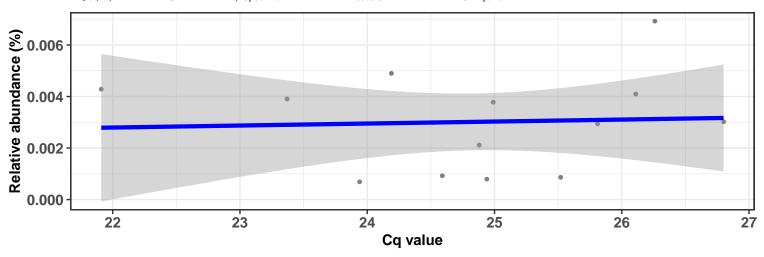


 $log_e(S) = 9.840, p = < 0.001, \hat{\rho}_{Spearman} = 0.504, Cl_{95\%} [0.304, 0.687], n_{pairs} = 61$ 



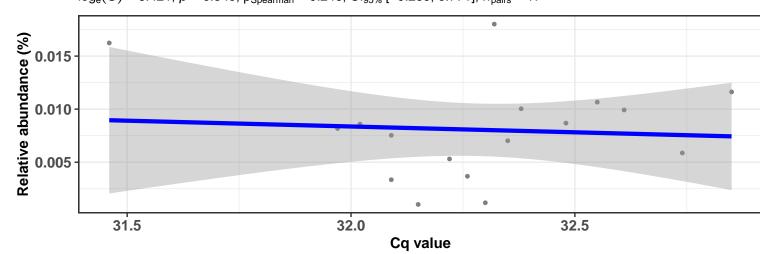
### Correlation within: REF-DIC

 $log_e(S) = 6.064$ , p = 0.852,  $\widehat{\rho}_{Spearman} = 0.055$ ,  $Cl_{95\%}$  [-0.571, 0.715],  $n_{pairs} = 14$ 



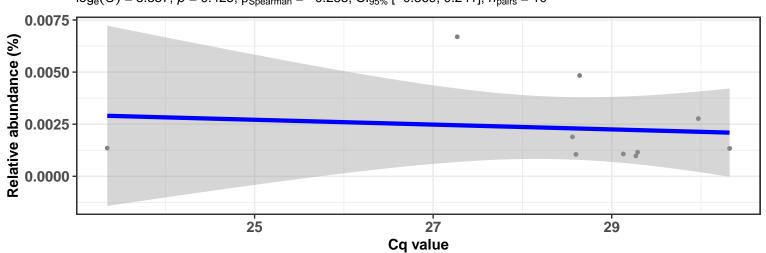
### Correlation within: REF-DIM

 $log_e(S) = 6.421, p = 0.340, \hat{\rho}_{Spearman} = 0.246, Cl_{95\%} [-0.269, 0.771], n_{pairs} = 17$ 



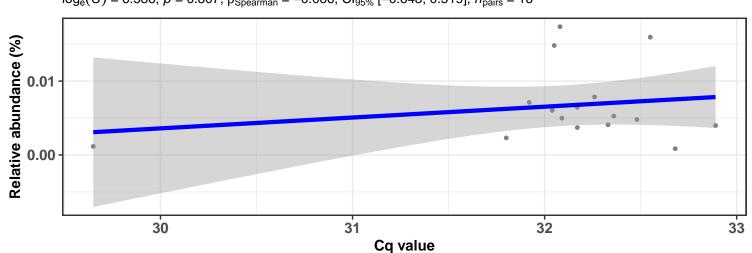
### Correlation within: IM-DIC

 $log_e(S) = 5.357$ , p = 0.425,  $\hat{\rho}_{Spearman} = -0.285$ ,  $Cl_{95\%}$  [-0.869, 0.241],  $n_{pairs} = 10$ 



### Correlation within: IM-DIM

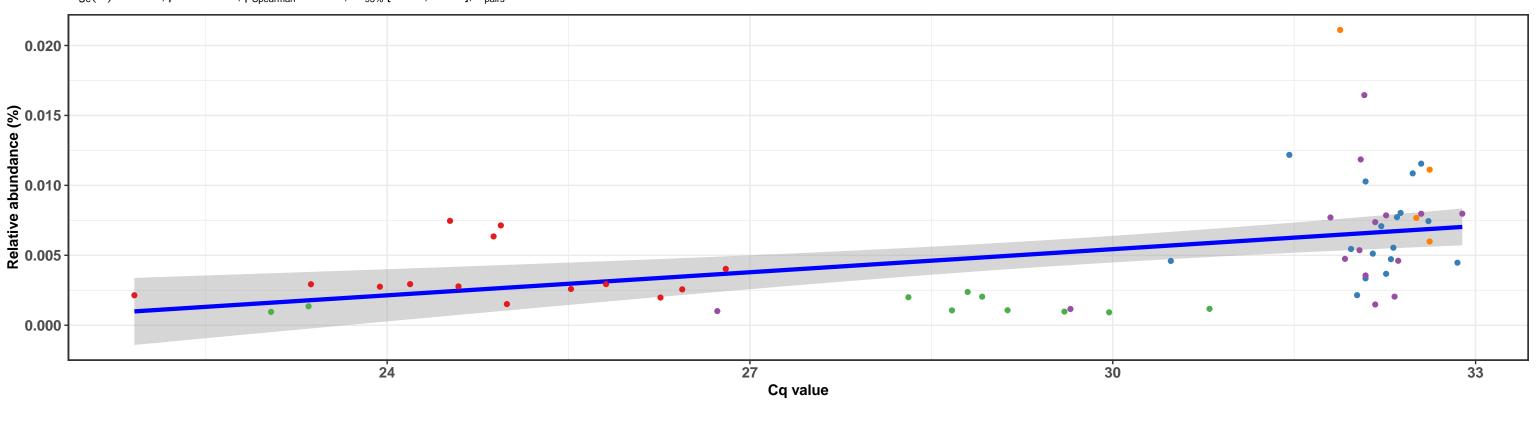
 $log_e(S) = 6.586$ , p = 0.807,  $\hat{\rho}_{Spearman} = -0.066$ ,  $Cl_{95\%}$  [-0.648, 0.519],  $n_{pairs} = 16$ 

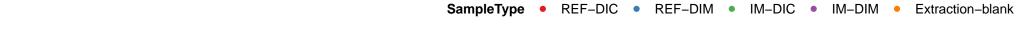


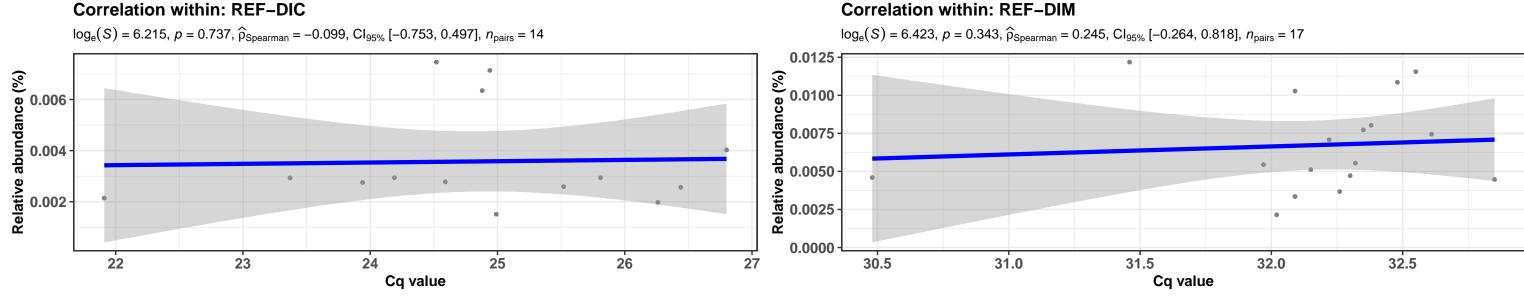
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA



 $log_e(S) = 9.676$ , p = < 0.001,  $\widehat{\rho}_{Spearman} = 0.557$ ,  $Cl_{95\%}$  [0.405, 0.726],  $n_{pairs} = 60$ 

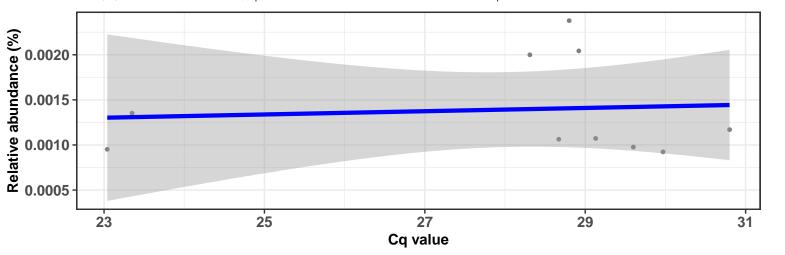






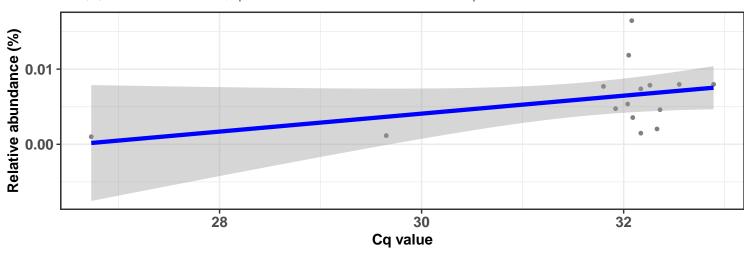
### Correlation within: IM-DIC

 $log_e(S) = 5.268$ , p = 0.627,  $\hat{\rho}_{Spearman} = -0.176$ ,  $Cl_{95\%}$  [-1.022, 0.569],  $n_{pairs} = 10$ 

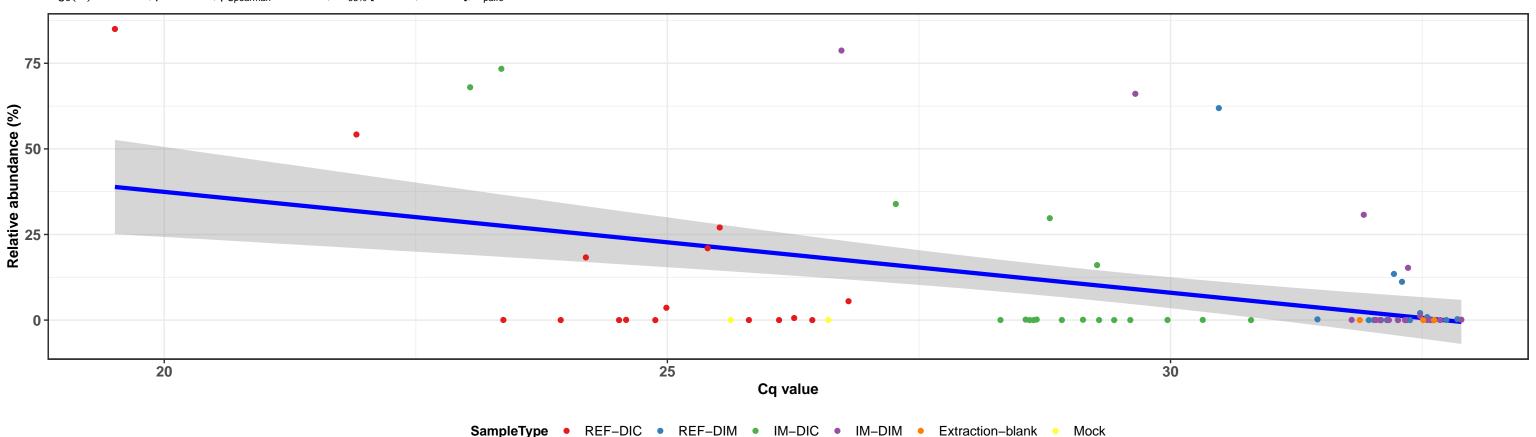


# Correlation within: IM-DIM

 $log_e(S) = 5.908$ , p = 0.210,  $\widehat{\rho}_{Spearman} = 0.343$ ,  $Cl_{95\%}$  [-0.160, 0.901],  $n_{pairs} = 15$ 

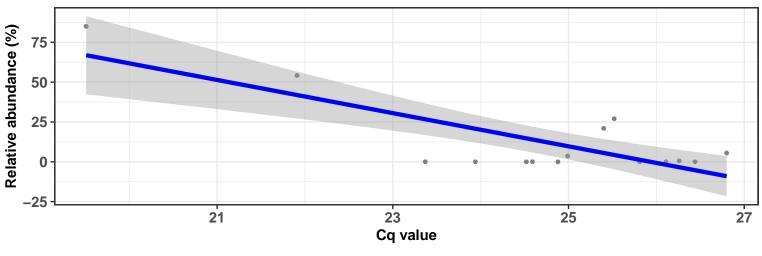


 $log_e(S) = 11.335$ , p = 0.013,  $\widehat{\rho}_{Spearman} = -0.291$ ,  $Cl_{95\%}$  [-0.501, -0.062],  $n_{pairs} = 73$ 



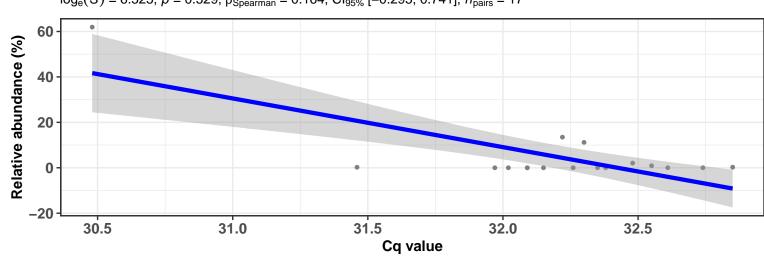
### Correlation within: REF-DIC

 $log_e(S) = 6.764$ , p = 0.305,  $\hat{\rho}_{Spearman} = -0.274$ ,  $Cl_{95\%}$  [-0.898, 0.241],  $n_{pairs} = 16$ 



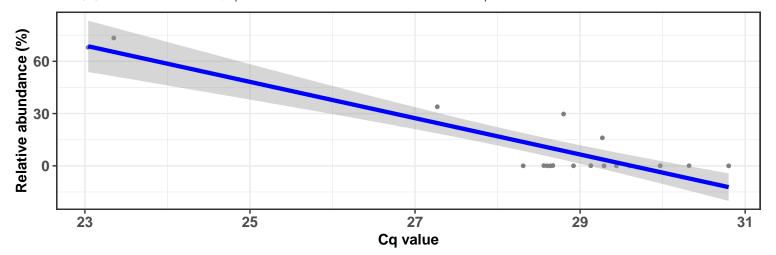
### Correlation within: REF-DIM

 $log_e(S) = 6.525$ , p = 0.529,  $\widehat{\rho}_{Spearman} = 0.164$ ,  $Cl_{95\%}$  [-0.295, 0.741],  $n_{pairs} = 17$ 



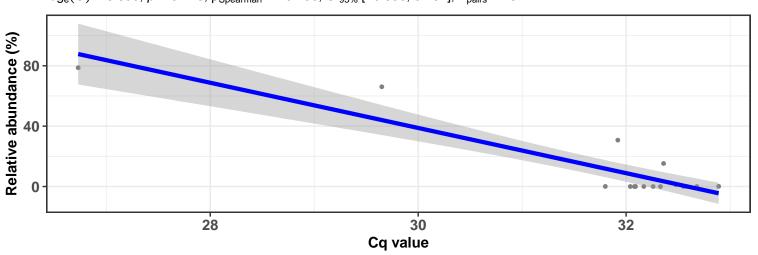
### Correlation within: IM-DIC

 $log_e(S) = 7.297, p = 0.026, \hat{\rho}_{Spearman} = -0.523, Cl_{95\%} [-0.972, -0.114], n_{pairs} = 18$ 



### Correlation within: IM-DIM

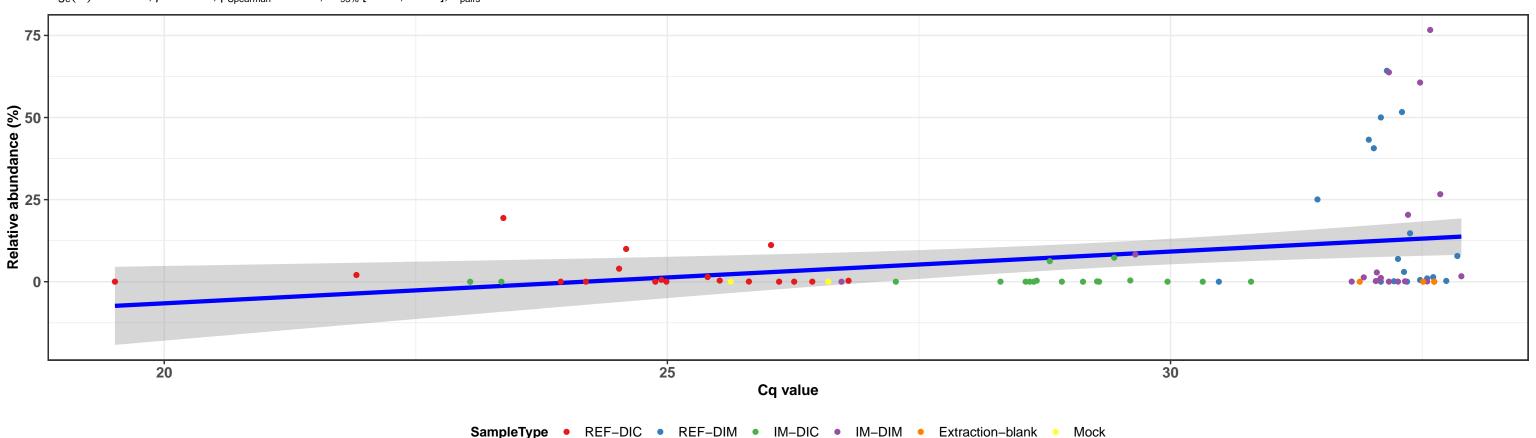
 $log_e(S) = 6.859, p = 0.125, \hat{\rho}_{Spearman} = -0.400, Cl_{95\%} [-0.950, 0.104], n_{pairs} = 16$ 



k\_Bacteria; p\_Spirochaetes; c\_Spirochaetia; o\_Brevinematales; f\_Brevinemataceae; g\_Brevinema; s\_Brevinema andersonii

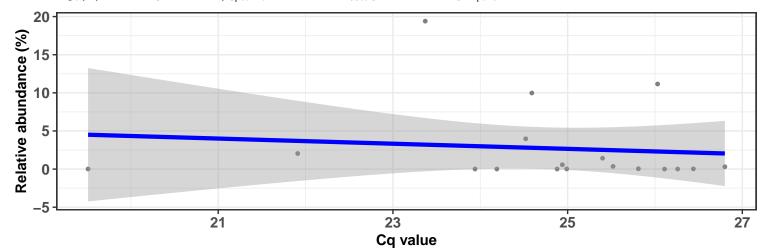


 $log_e(S) = 10.883, p = 0.004, \hat{\rho}_{Spearman} = 0.326, Cl_{95\%} [0.139, 0.509], n_{pairs} = 78$ 



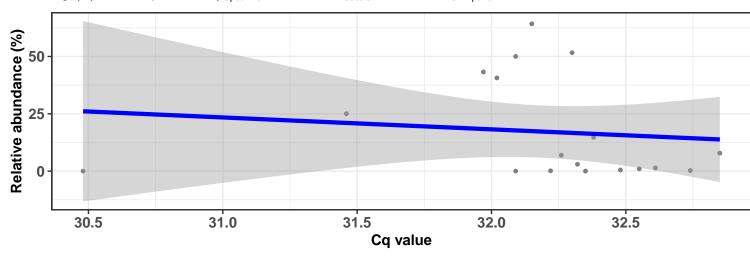
### Correlation within: REF-DIC

 $log_e(S) = 7.063, p = 0.414, \hat{\rho}_{Spearman} = -0.205, Cl_{95\%} [-0.701, 0.299], n_{pairs} = 18$ 



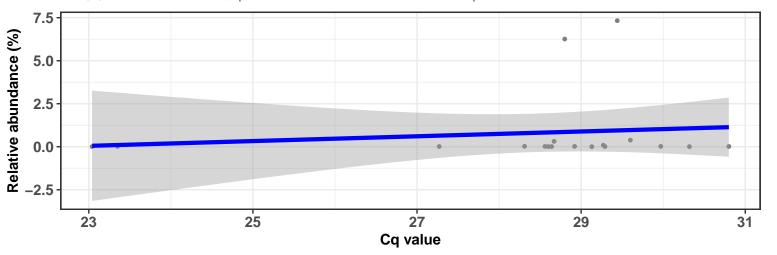
# Correlation within: REF-DIM

 $log_e(S) = 7.044, p = 0.468, \hat{\rho}_{Spearman} = -0.183, Cl_{95\%} [-0.782, 0.356], n_{pairs} = 18$ 



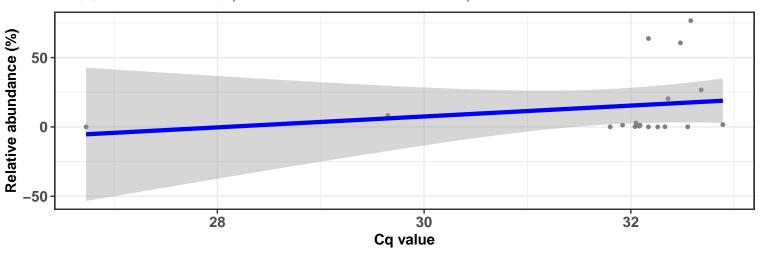
## Correlation within: IM-DIC

 $log_e(S) = 6.631, p = 0.385, \hat{\rho}_{Spearman} = 0.218, Cl_{95\%} [-0.207, 0.617], n_{pairs} = 18$ 

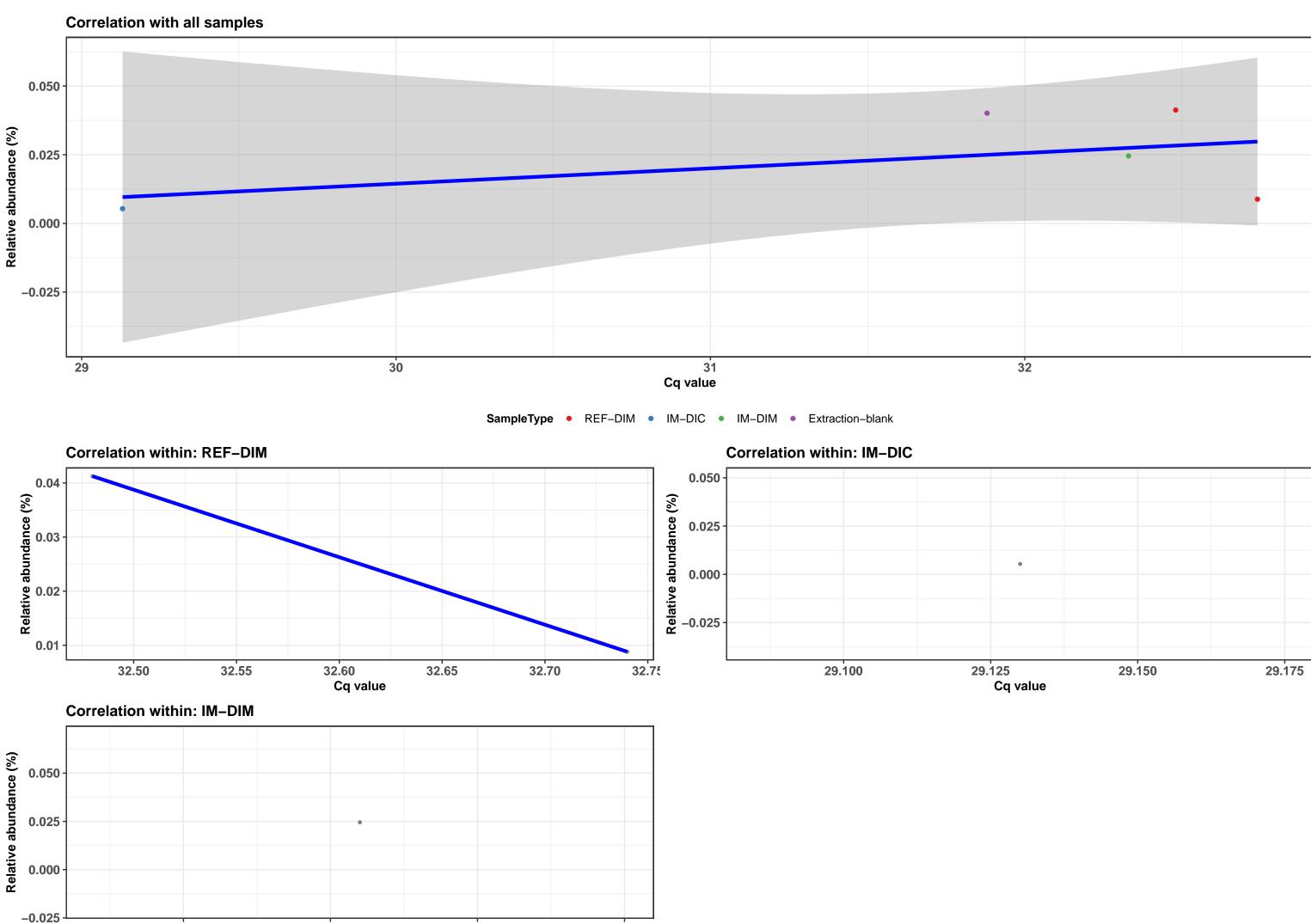


# Correlation within: IM-DIM

 $log_e(S) = 6.359, p = 0.097, \hat{p}_{Spearman} = 0.404, Cl_{95\%} [-0.020, 0.854], n_{pairs} = 18$ 



k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Rhizobiales; f\_\_Devosiaceae; g\_\_Devosia; NA



32.375

32.325

Cq value

32.350

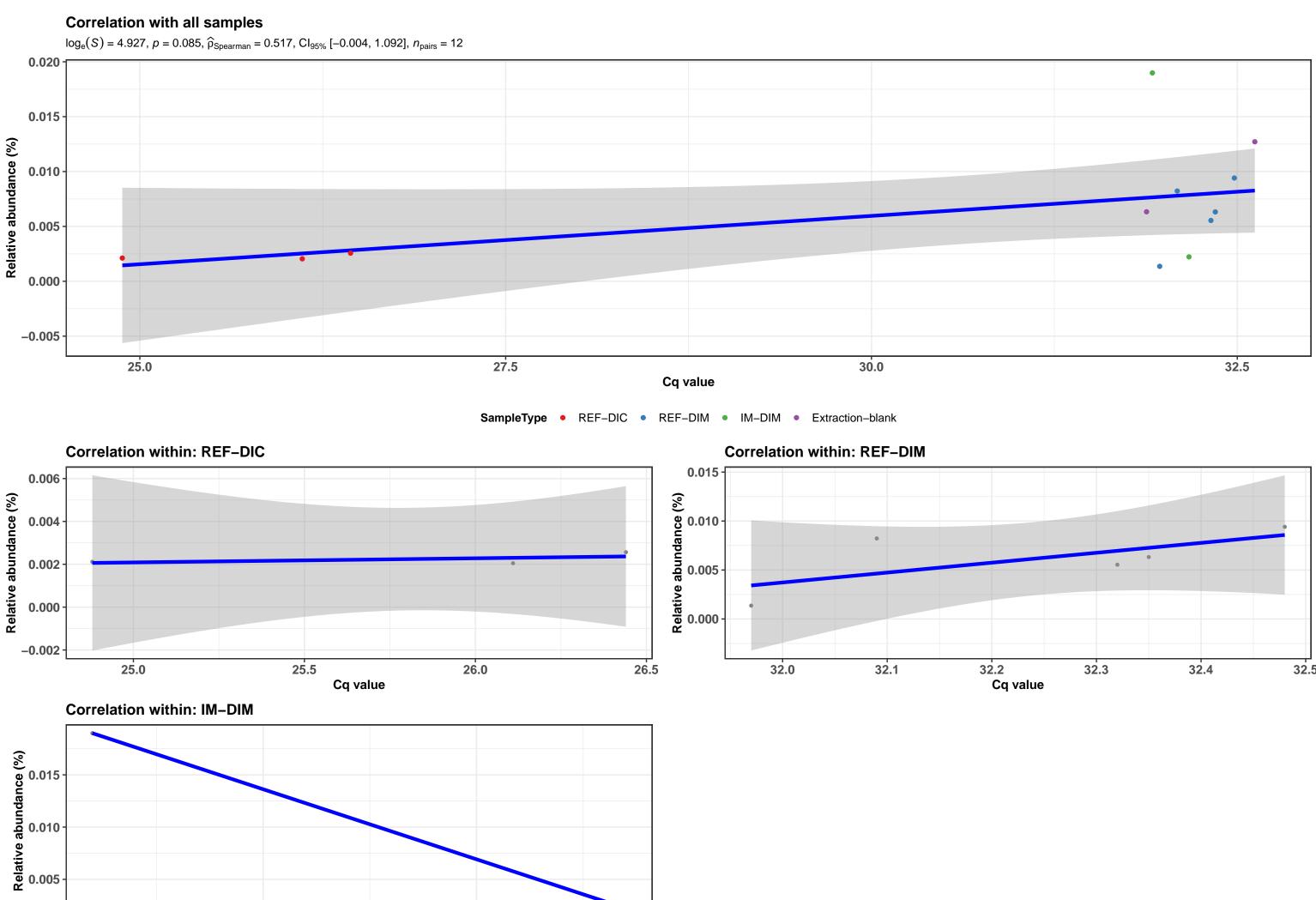
32.300

k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Sphingomonadales; f\_\_Sphingomonadaceae; g\_\_Sphingomonas; s\_\_Sphingomonas aurantiaca **Correlation with all samples**  $\log_{\rm e}(S) = 3.912, \, \rho = 0.320, \, \widehat{\rho}_{\rm Spearman} = 0.405, \, {\rm Cl}_{95\%} \, [-0.317, \, 1.257], \, n_{\rm pairs} = 8$ 0.0 -0.1 25.0 27.5 32.5 30.0 Cq value **SampleType** • REF-DIC • REF-DIM • IM-DIC • IM-DIM • Extraction-blank **Correlation within: REF-DIM** Correlation within: REF-DIC 0.125 Relative abundance (%) Relative abundance (%) 0.000 0.000 0.005 0.000 24 25 32.50 32.40 32.45 32.55 32.60 Cq value Cq value Correlation within: IM-DIC Correlation within: IM-DIM 0.050 0.16 Relative abundance (%) 0.025 0.000 -0.025 0.04 32.25 29.41 29.43 29.47 32.00 32.50 32.75 29.39 29.45 29.4 31.75 Cq value Cq value

Relative abundance (%)

Relative abundance (%)

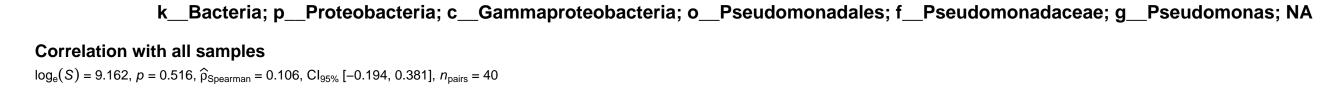
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Caulobacterales; f\_\_Caulobacteraceae; g\_\_Brevundimonas; Ambiguous\_taxa

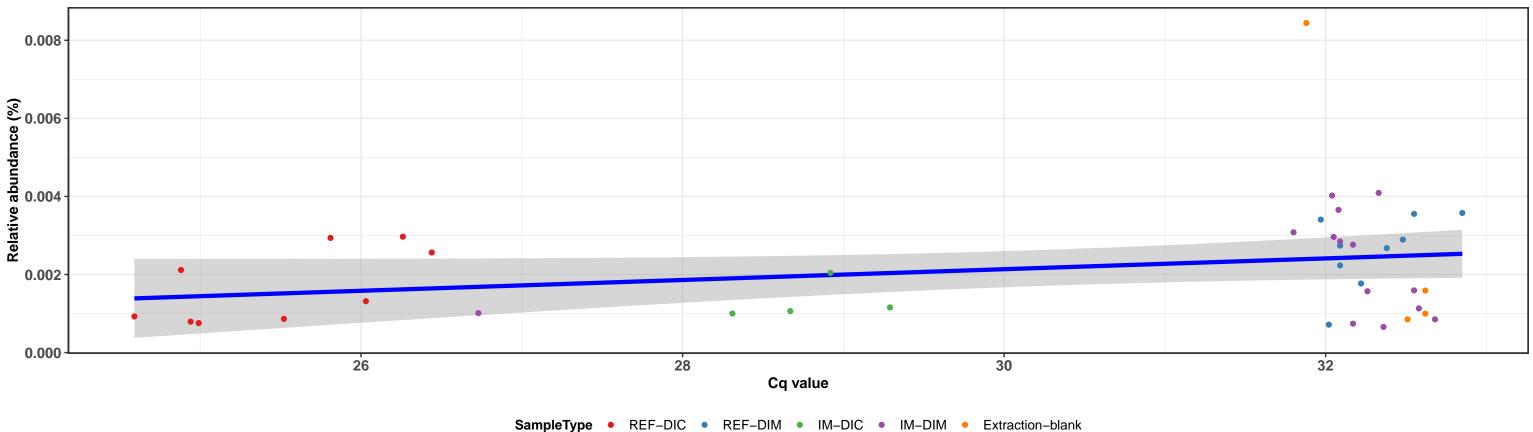


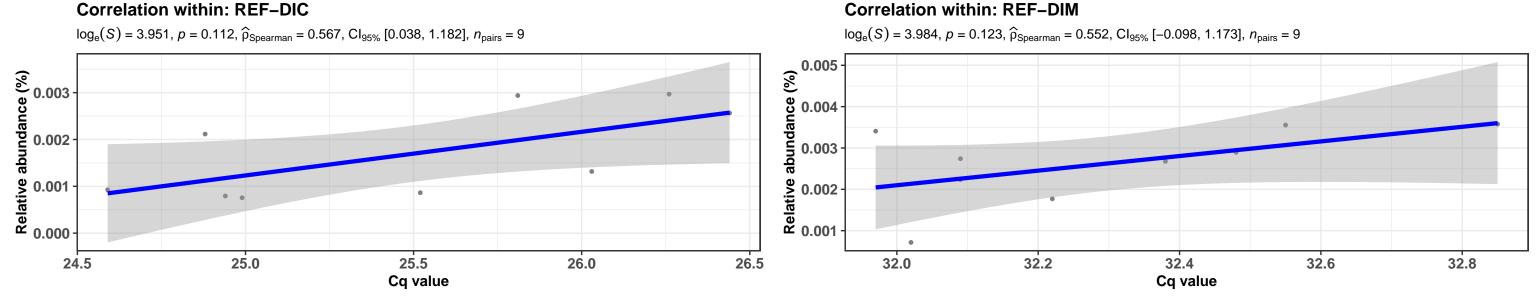
32.0

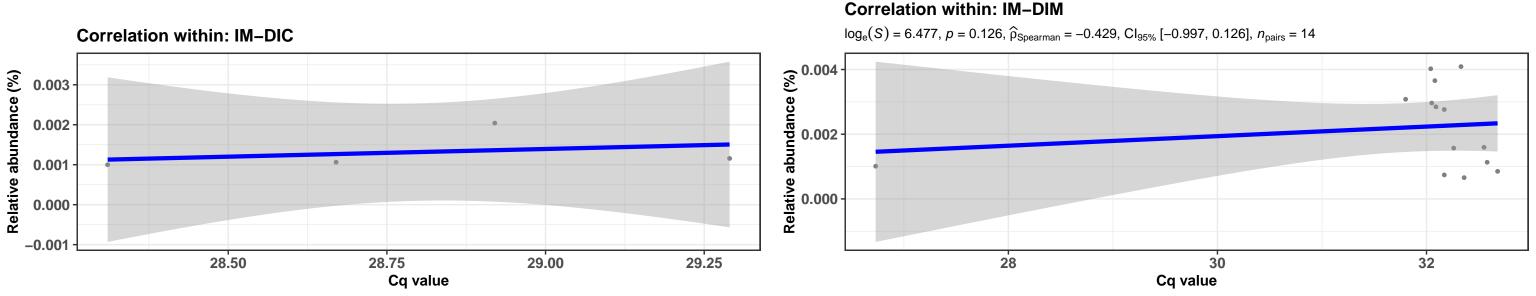
Cq value

32.1



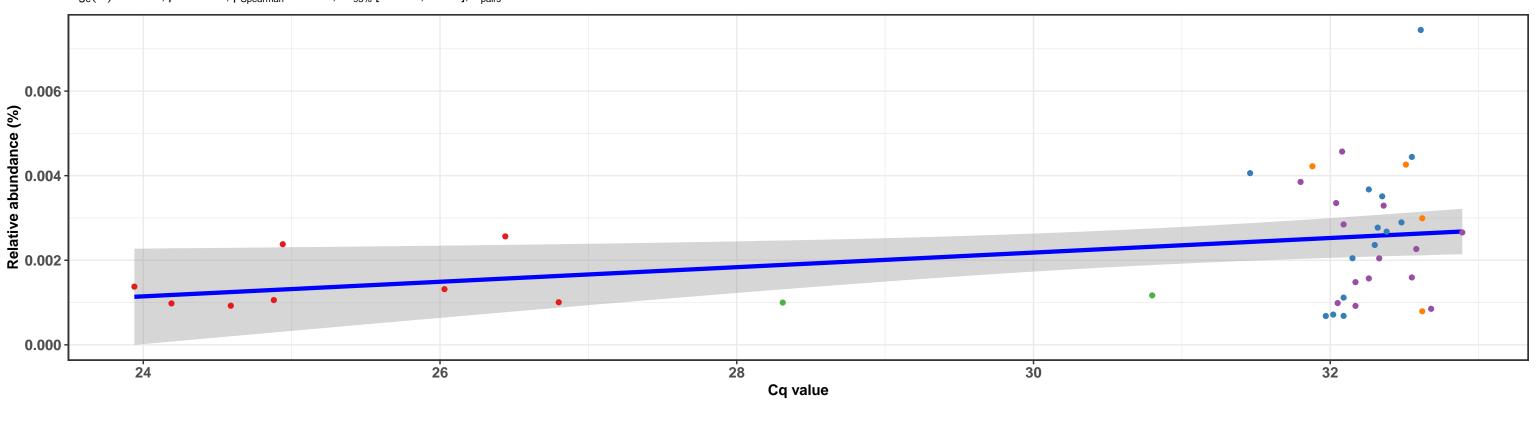


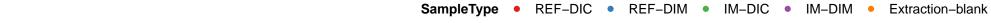






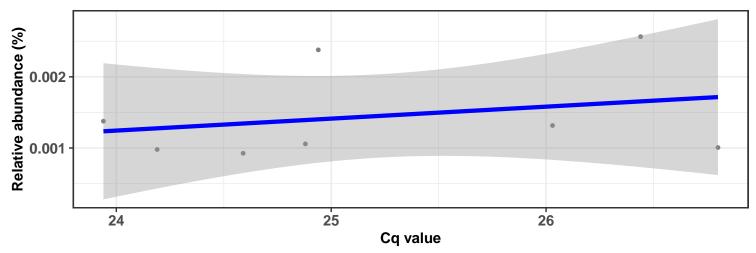
 $log_e(S) = 9.077, p = 0.061, \widehat{\rho}_{Spearman} = 0.291, Cl_{95\%} [-0.022, 0.597], n_{pairs} = 42$ 





# **Correlation within: REF-DIC**

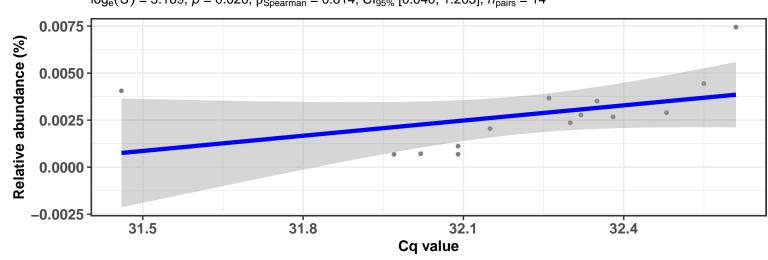
 $log_e(S) = 4.094$ , p = 0.493,  $\hat{\rho}_{Spearman} = 0.286$ ,  $Cl_{95\%}$  [-0.477, 1.064],  $n_{pairs} = 8$ 



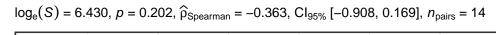
# **Correlation within: REF-DIM**

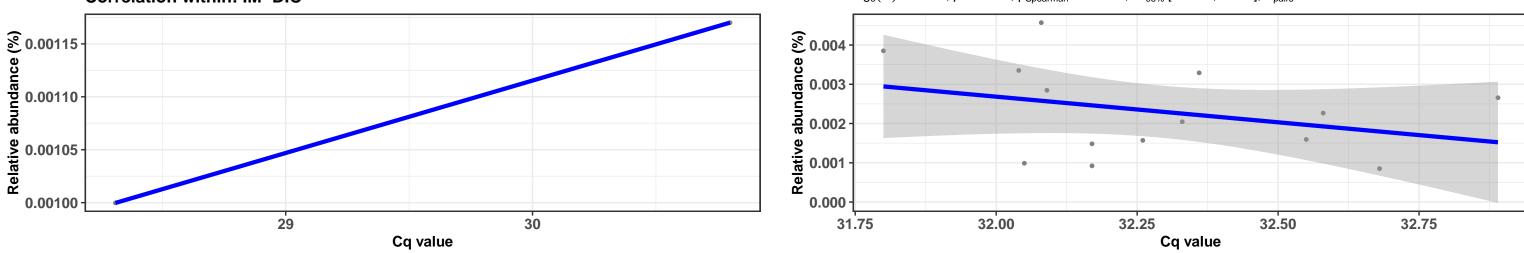
Correlation within: IM-DIM

 $\log_{e}(S) = 5.169, p = 0.020, \hat{\rho}_{Spearman} = 0.614, Cl_{95\%} [0.040, 1.203], n_{pairs} = 14$ 



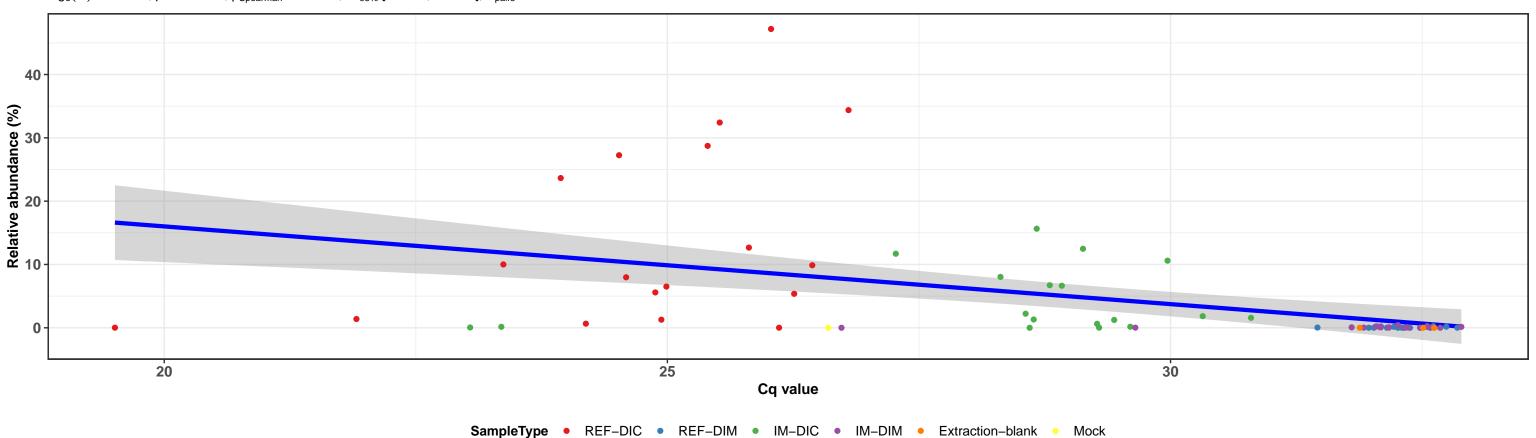
# Correlation within: IM-DIC

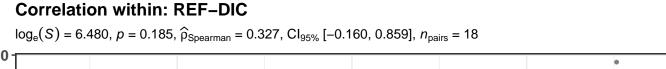


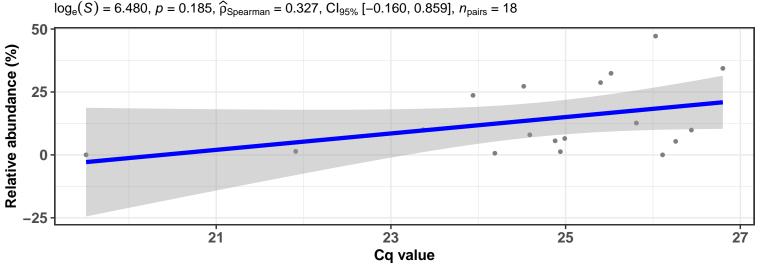


k\_\_Bacteria; p\_\_Tenericutes; c\_\_Mollicutes; o\_\_Mycoplasmatales; f\_\_Mycoplasmataceae; g\_\_Mycoplasma; s\_\_uncultured bacterium

 $log_e(S) = 11.658$ , p = < 0.001,  $\widehat{\rho}_{Spearman} = -0.581$ ,  $Cl_{95\%}$  [-0.752, -0.436],  $n_{pairs} = 76$ 

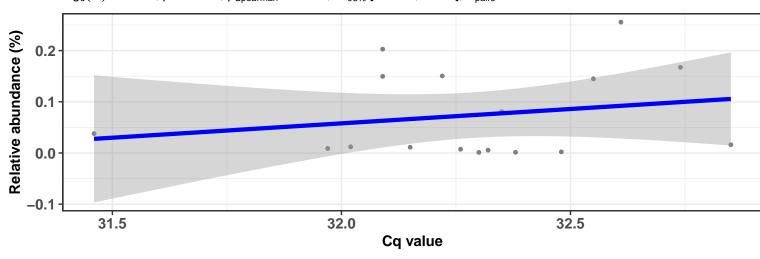






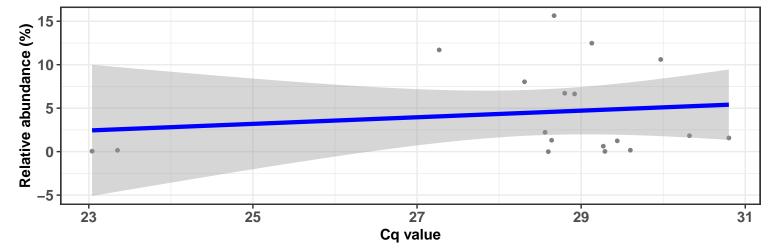
# **Correlation within: REF-DIM**

 $log_e(S) = 6.632, p = 0.790, \hat{\rho}_{Spearman} = 0.070, Cl_{95\%} [-0.343, 0.520], n_{pairs} = 17$ 



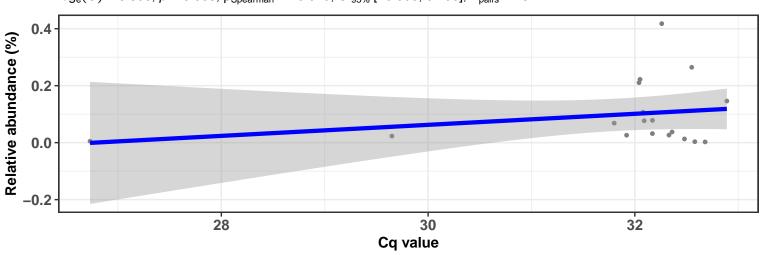
### Correlation within: IM-DIC

 $log_e(S) = 6.837, p = 0.880, \hat{\rho}_{Spearman} = 0.038, Cl_{95\%} [-0.376, 0.598], n_{pairs} = 18$ 



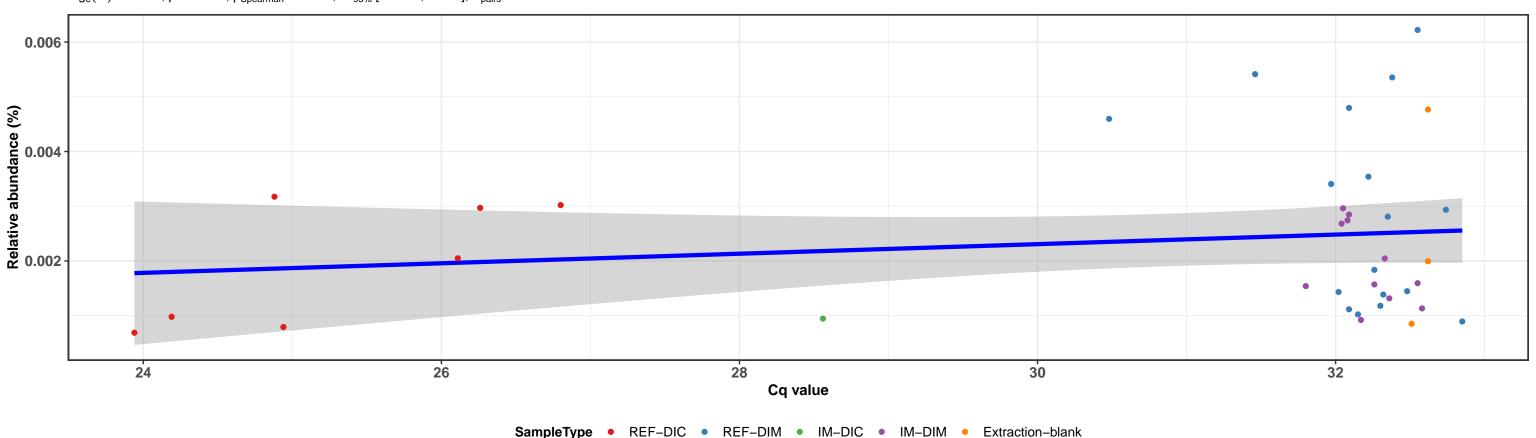
# Correlation within: IM-DIM

 $log_e(S) = 6.890, p = 0.958, \hat{\rho}_{Spearman} = -0.013, Cl_{95\%} [-0.598, 0.495], n_{pairs} = 18$ 



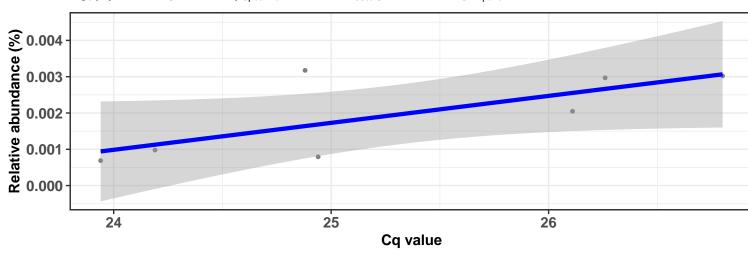


 $log_e(S) = 9.183, p = 0.927, \hat{\rho}_{Spearman} = 0.015, Cl_{95\%} [-0.360, 0.345], n_{pairs} = 39$ 



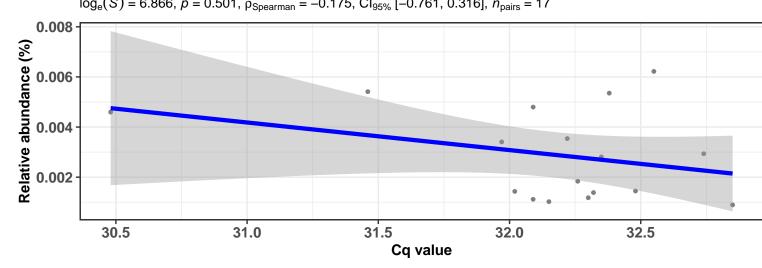
# Correlation within: REF-DIC

 $log_e(S) = 3.178, p = 0.180, \hat{\rho}_{Spearman} = 0.571, Cl_{95\%}$  [-0.191, 1.325],  $n_{pairs} = 7$ 

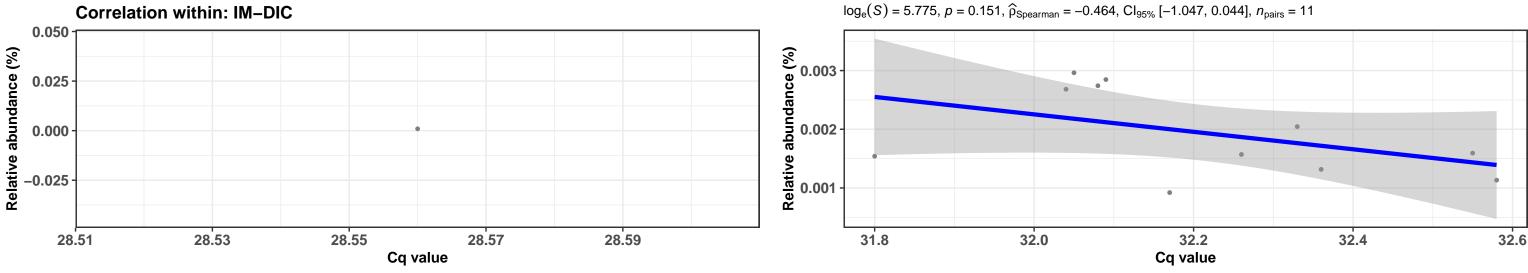


### **Correlation within: REF-DIM**

 $log_e(S) = 6.866, p = 0.501, \hat{\rho}_{Spearman} = -0.175, Cl_{95\%} [-0.761, 0.316], n_{pairs} = 17$ 



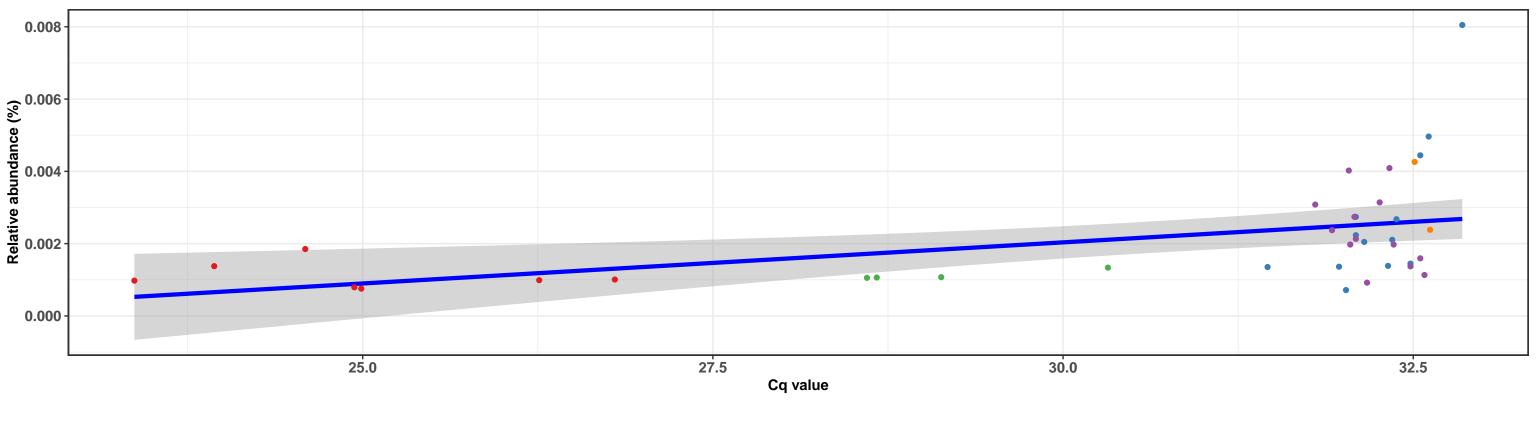
### **Correlation within: IM-DIM**

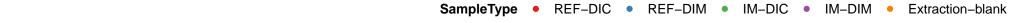


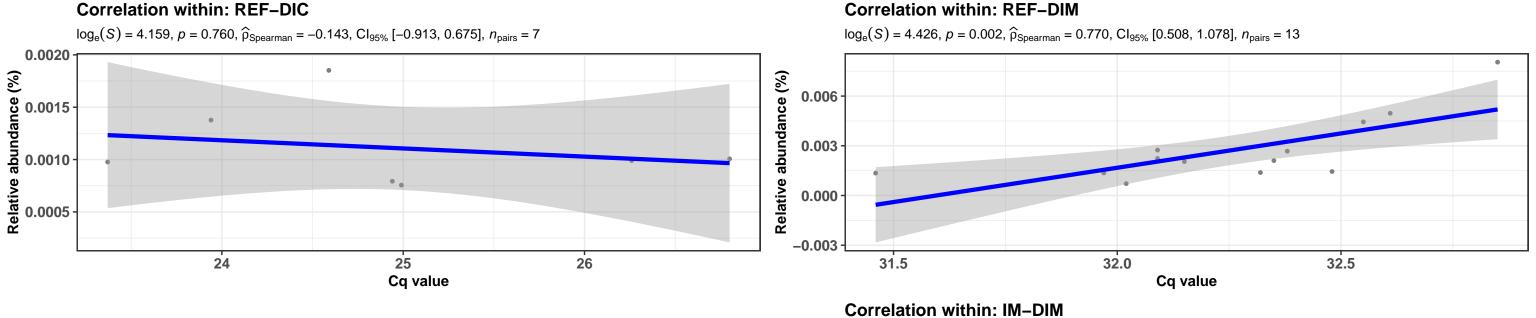
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA

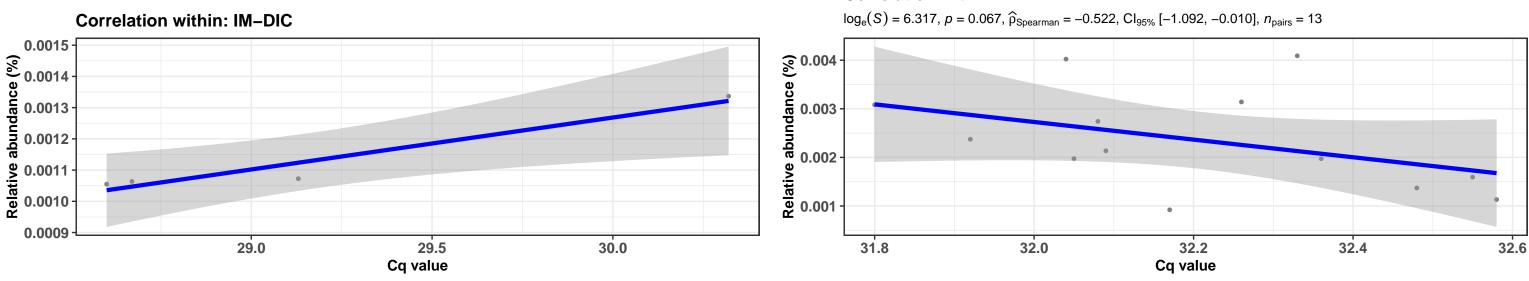


 $log_e(S) = 8.286, p = < 0.001, \hat{\rho}_{Spearman} = 0.598, Cl_{95\%} [0.415, 0.812], n_{pairs} = 39$ 





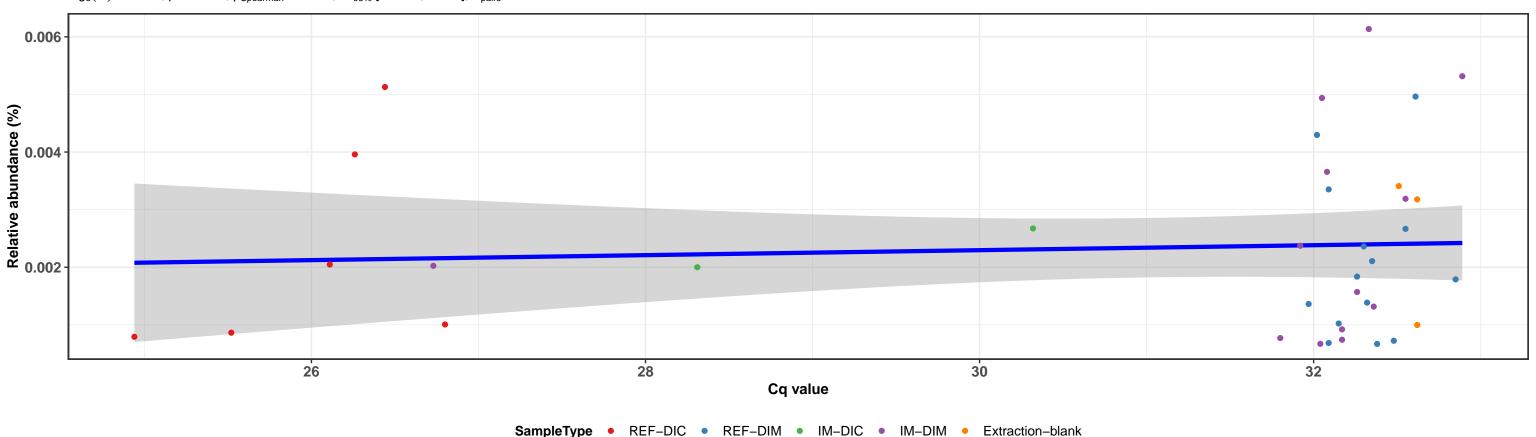




k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA

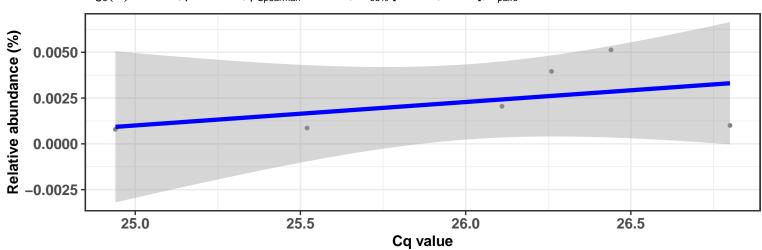


 $log_e(S) = 8.996$ , p = 0.483,  $\widehat{\rho}_{Spearman} = 0.117$ ,  $Cl_{95\%}$  [-0.190, 0.423],  $n_{pairs} = 38$ 



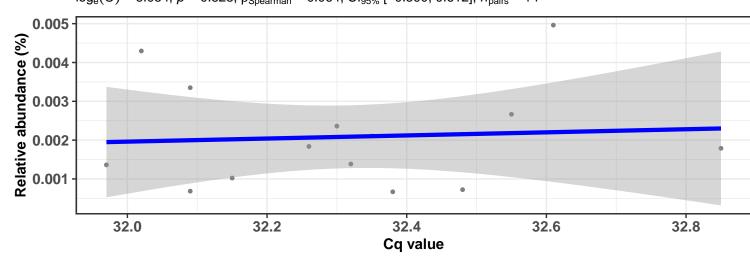


 $log_e(S) = 2.485$ , p = 0.156,  $\hat{\rho}_{Spearman} = 0.657$ ,  $Cl_{95\%}$  [-0.127, 1.541],  $n_{pairs} = 6$ 



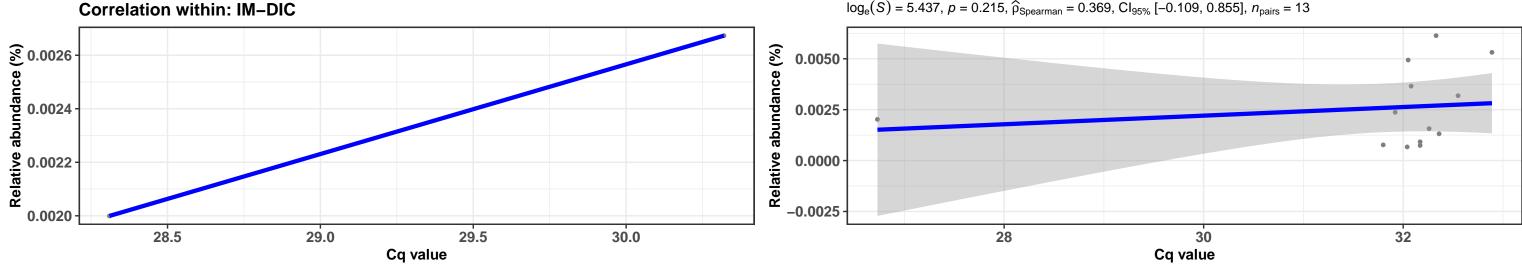
### **Correlation within: REF-DIM**

 $log_e(S) = 6.054$ , p = 0.828,  $\widehat{\rho}_{Spearman} = 0.064$ ,  $Cl_{95\%}$  [-0.590, 0.612],  $n_{pairs} = 14$ 



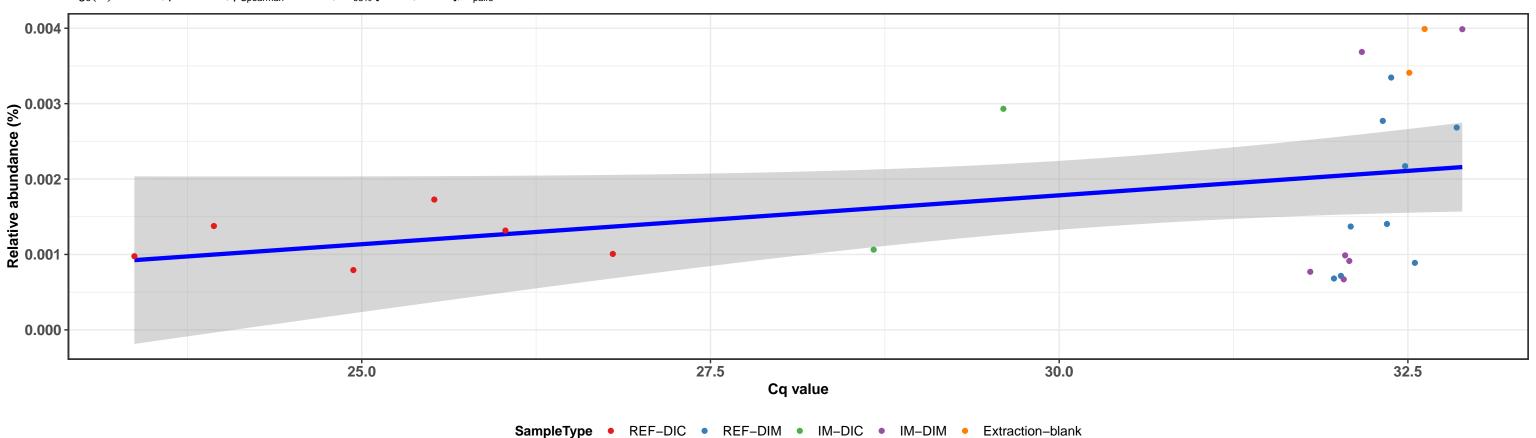
### Correlation within: IM-DIM

 $log_e(S) = 5.437$ , p = 0.215,  $\widehat{\rho}_{Spearman} = 0.369$ ,  $Cl_{95\%}$  [-0.109, 0.855],  $n_{pairs} = 13$ 



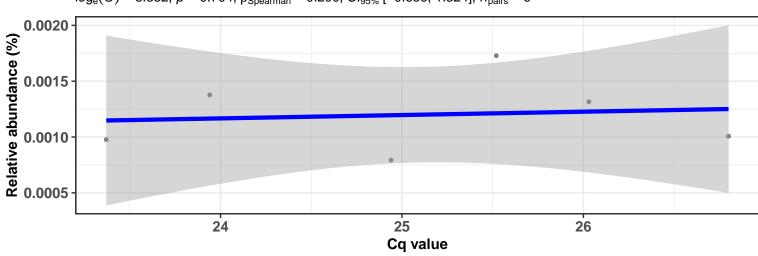


 $\log_{e}(S) = 7.156, p = 0.010, \hat{\rho}_{Spearman} = 0.507, Cl_{95\%} [0.217, 0.845], n_{pairs} = 25$ 



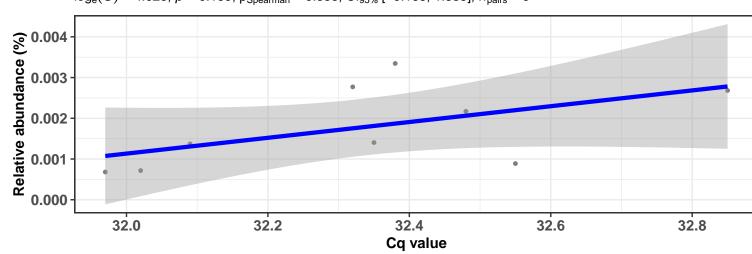


 $log_e(S) = 3.332, p = 0.704, \hat{\rho}_{Spearman} = 0.200, Cl_{95\%} [-0.686, 1.324], n_{pairs} = 6$ 



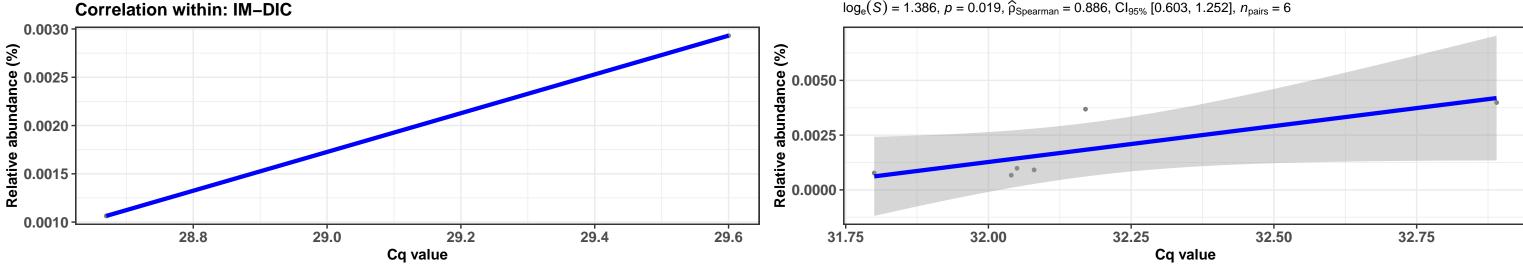
### **Correlation within: REF-DIM**

 $log_e(S) = 4.025$ , p = 0.139,  $\widehat{\rho}_{Spearman} = 0.533$ ,  $Cl_{95\%}$  [-0.165, 1.355],  $n_{pairs} = 9$ 

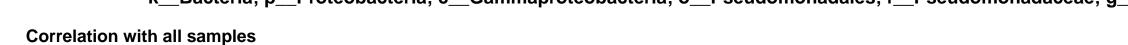


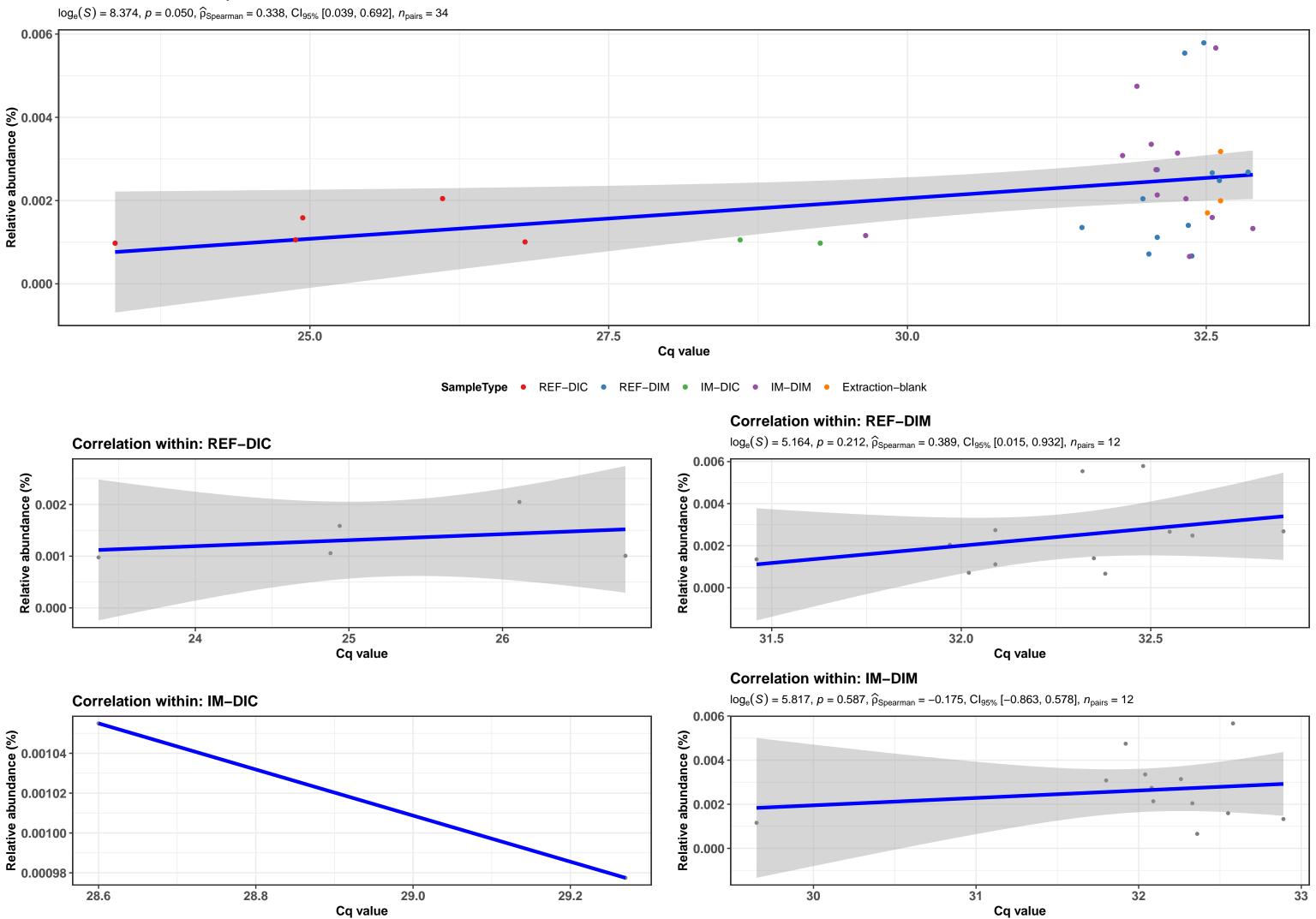
### **Correlation within: IM-DIM**

 $log_e(S) = 1.386$ , p = 0.019,  $\widehat{\rho}_{Spearman} = 0.886$ ,  $Cl_{95\%}$  [0.603, 1.252],  $n_{pairs} = 6$ 



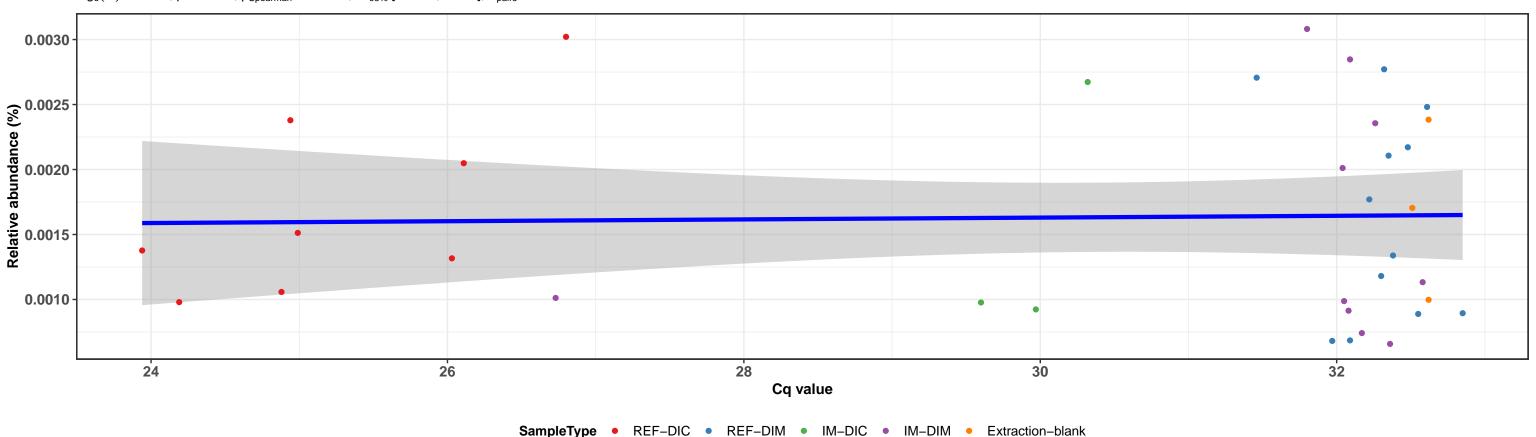
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; NA





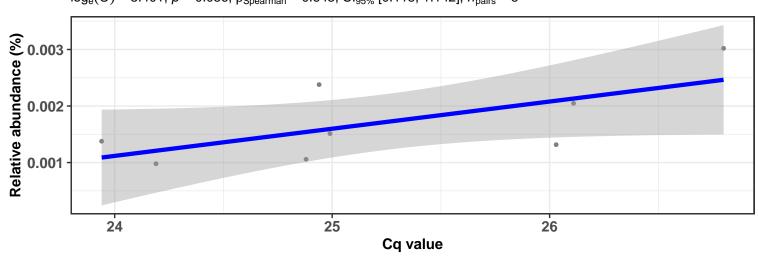


 $\log_{\rm e}(S) = 9.013, \ p = 0.745, \ \widehat{\rho}_{\rm Spearman} = -0.056, \ {\rm Cl}_{95\%} \ [-0.337, \ 0.248], \ n_{\rm pairs} = 36$ 



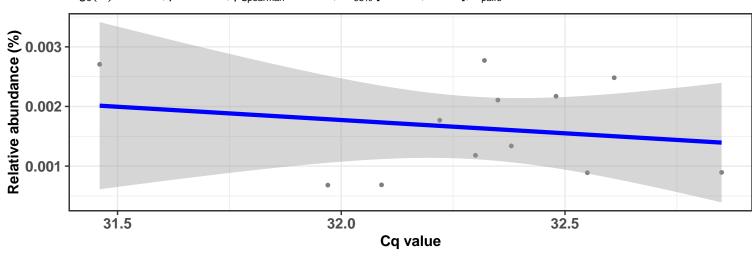


 $log_e(S) = 3.401$ , p = 0.086,  $\hat{\rho}_{Spearman} = 0.643$ ,  $Cl_{95\%}$  [0.118, 1.142],  $n_{pairs} = 8$ 



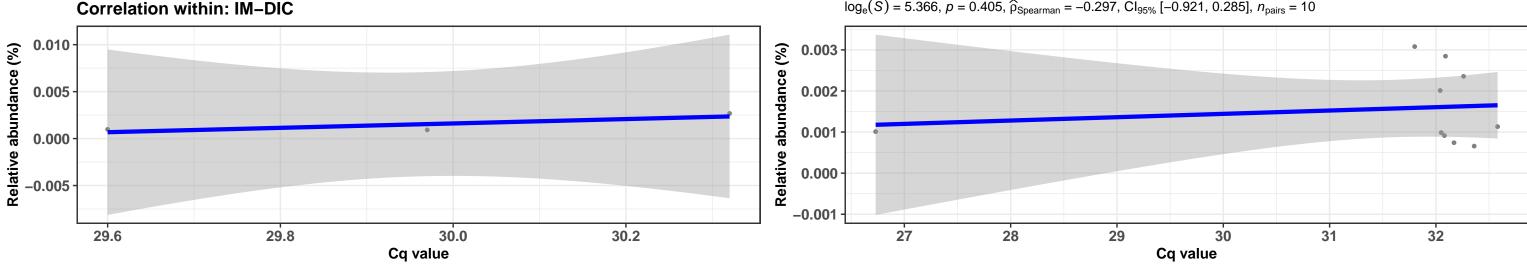
### **Correlation within: REF-DIM**

 $log_e(S) = 5.583$ , p = 0.829,  $\hat{\rho}_{Spearman} = 0.070$ ,  $Cl_{95\%}$  [-0.750, 0.847],  $n_{pairs} = 12$ 

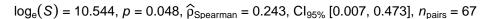


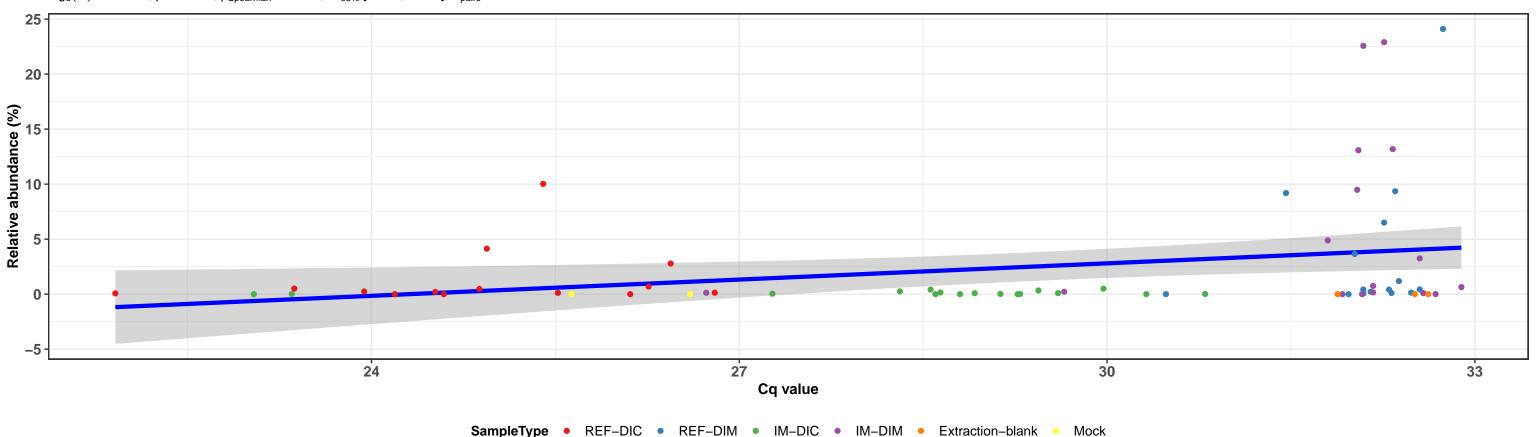
# **Correlation within: IM-DIM**

 $log_e(S) = 5.366$ , p = 0.405,  $\widehat{\rho}_{Spearman} = -0.297$ ,  $Cl_{95\%}$  [-0.921, 0.285],  $n_{pairs} = 10$ 



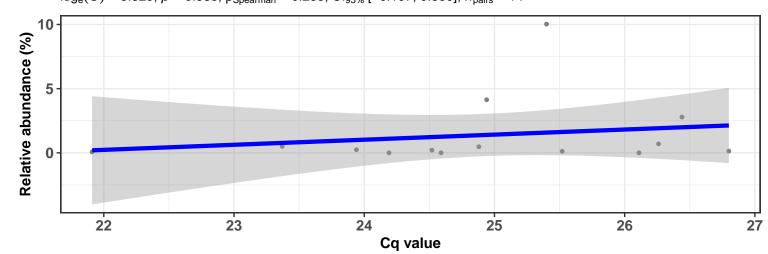




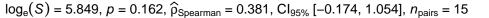


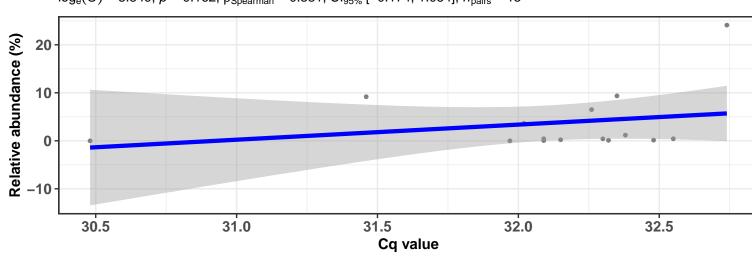
# Correlation within: REF-DIC

 $log_e(S) = 5.829, p = 0.383, \hat{\rho}_{Spearman} = 0.253, Cl_{95\%} [-0.197, 0.830], n_{pairs} = 14$ 



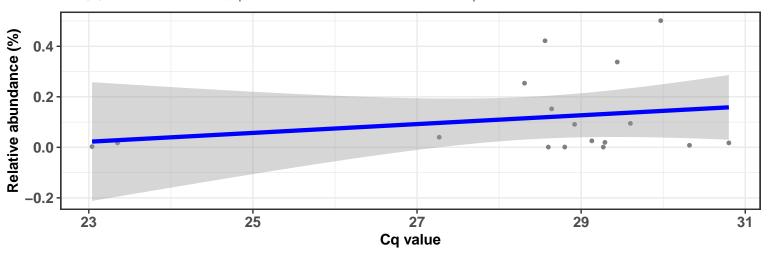
### Correlation within: REF-DIM





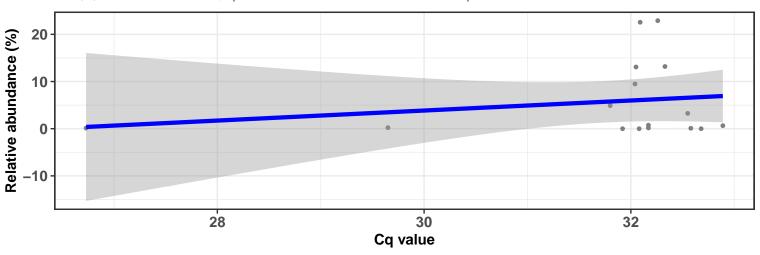
## Correlation within: IM-DIC

 $log_e(S) = 6.628$ , p = 0.779,  $\hat{\rho}_{Spearman} = 0.074$ ,  $Cl_{95\%}$  [-0.461, 0.623],  $n_{pairs} = 17$ 

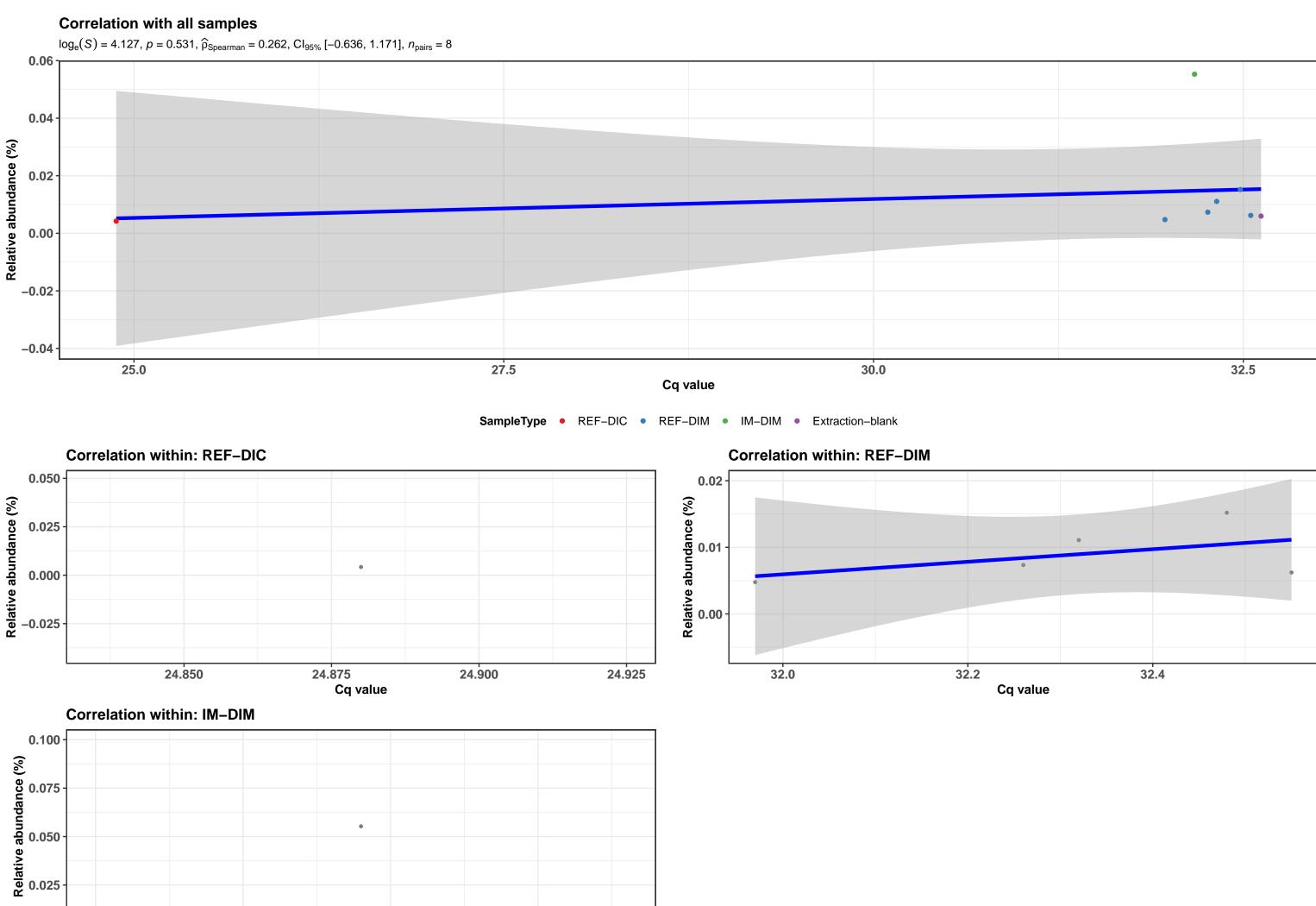


### Correlation within: IM-DIM

$$log_e(S) = 6.494, p = 0.918, \hat{p}_{Spearman} = 0.028, Cl_{95\%} [-0.525, 0.527], n_{pairs} = 16$$



k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Caulobacterales; f\_\_Caulobacteraceae; g\_\_Brevundimonas; NA



32.125

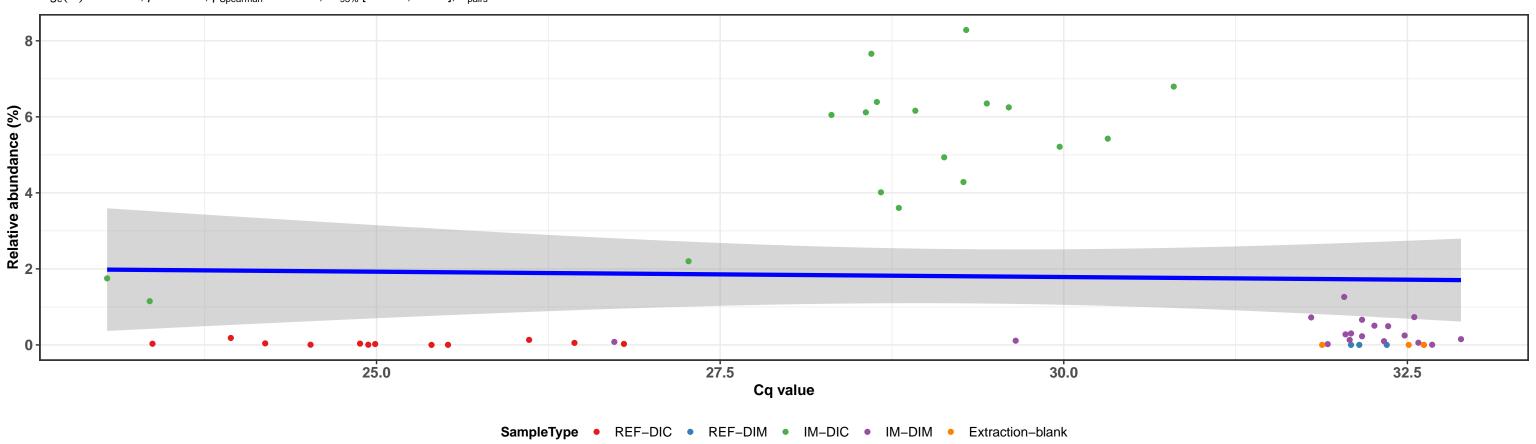
32.150

32.175

Cq value

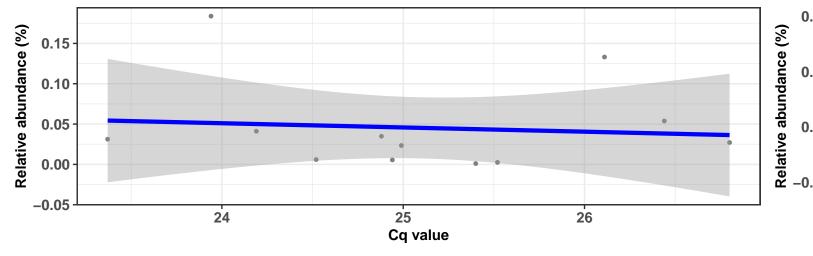
32.200

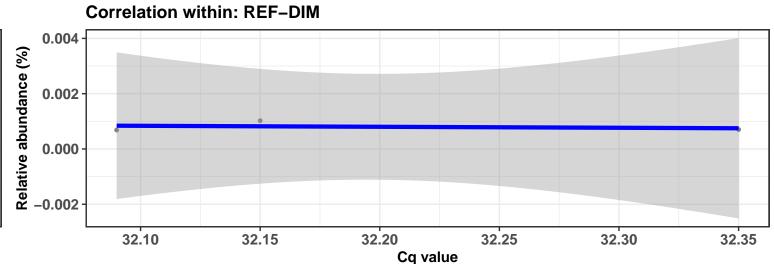
 $log_e(S) = 10.372, p = 0.267, \hat{\rho}_{Spearman} = -0.152, Cl_{95\%} [-0.448, 0.154], n_{pairs} = 55$ 



### **Correlation within: REF-DIC**

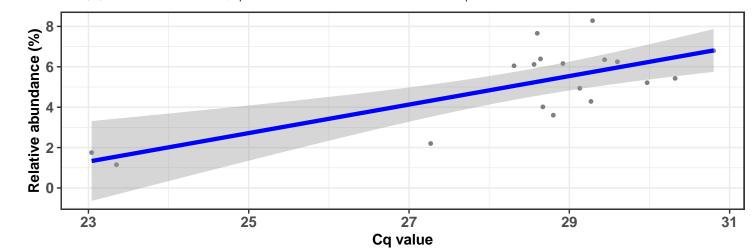
 $log_e(S) = 5.799, p = 0.633, \hat{\rho}_{Spearman} = -0.154, Cl_{95\%} [-0.642, 0.459], n_{pairs} = 12$ 





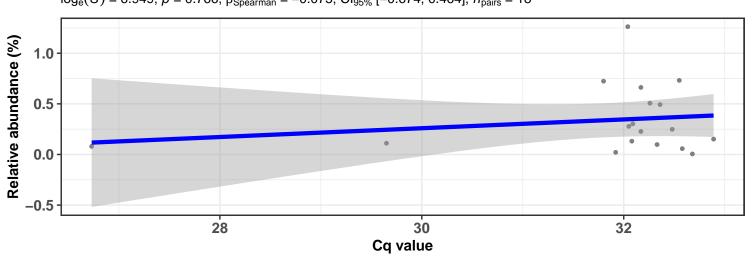
### Correlation within: IM-DIC

 $\log_{e}(S) = 6.234, p = 0.047, \hat{\rho}_{Spearman} = 0.474, Cl_{95\%} [0.020, 0.966], n_{pairs} = 18$ 



# **Correlation within: IM-DIM**

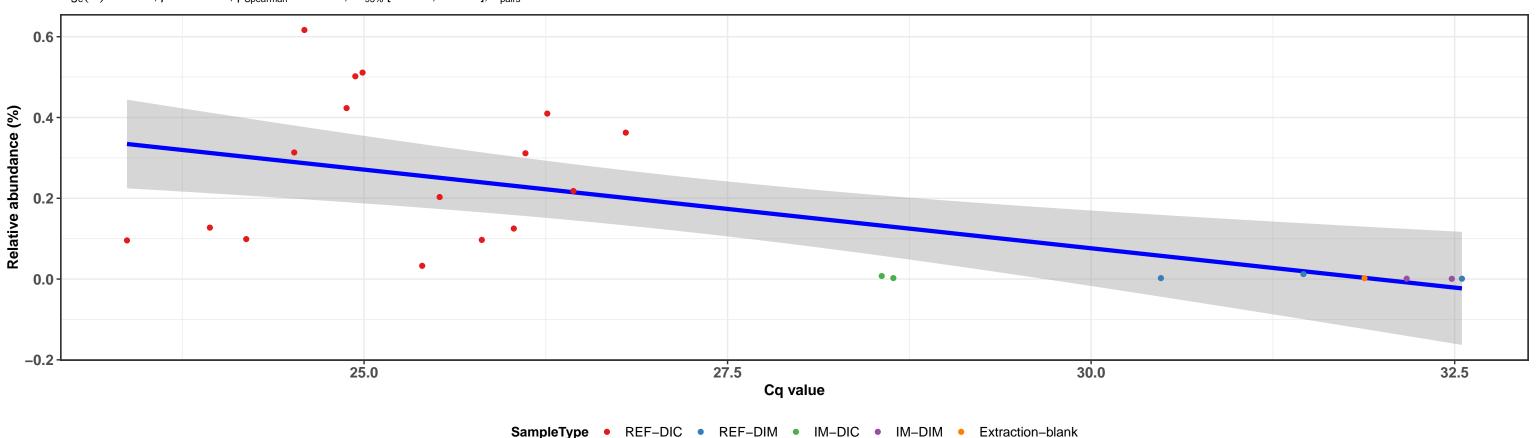
 $log_e(S) = 6.949, p = 0.766, \hat{p}_{Spearman} = -0.075, Cl_{95\%} [-0.674, 0.464], n_{pairs} = 18$ 



k\_\_Bacteria; p\_\_Firmicutes; c\_\_Clostridia; o\_\_Clostridiales; f\_\_Family XI; g\_\_Tepidimicrobium; s\_\_Tepidimicrobium sp. GRC1

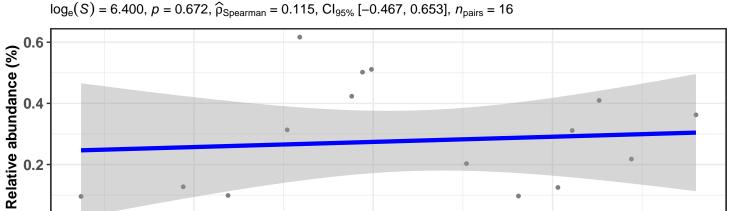


 $log_e(S) = 8.250, p = < 0.001, \hat{\rho}_{Spearman} = -0.664, Cl_{95\%}$  [-1.010, -0.396],  $n_{pairs} = 24$ 



### Correlation within: REF-DIC

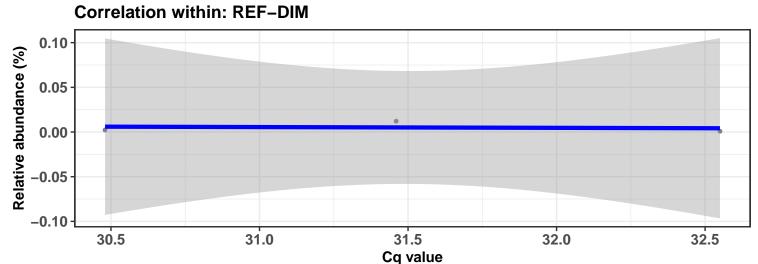
24

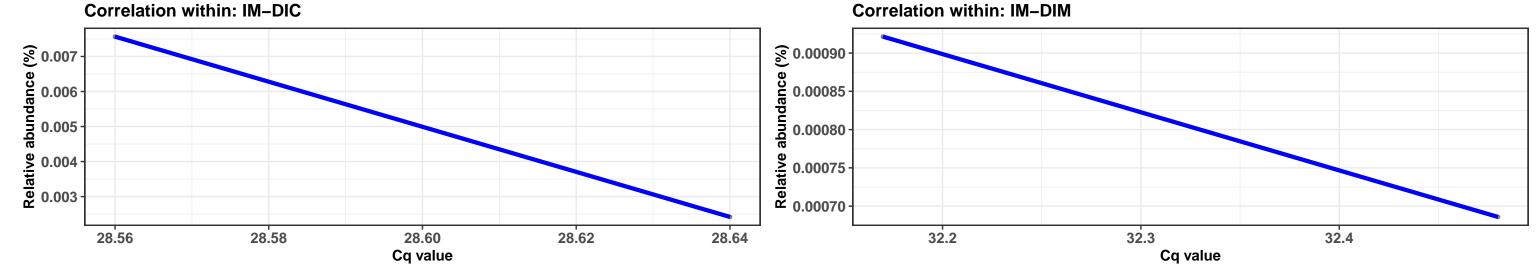


25

Cq value

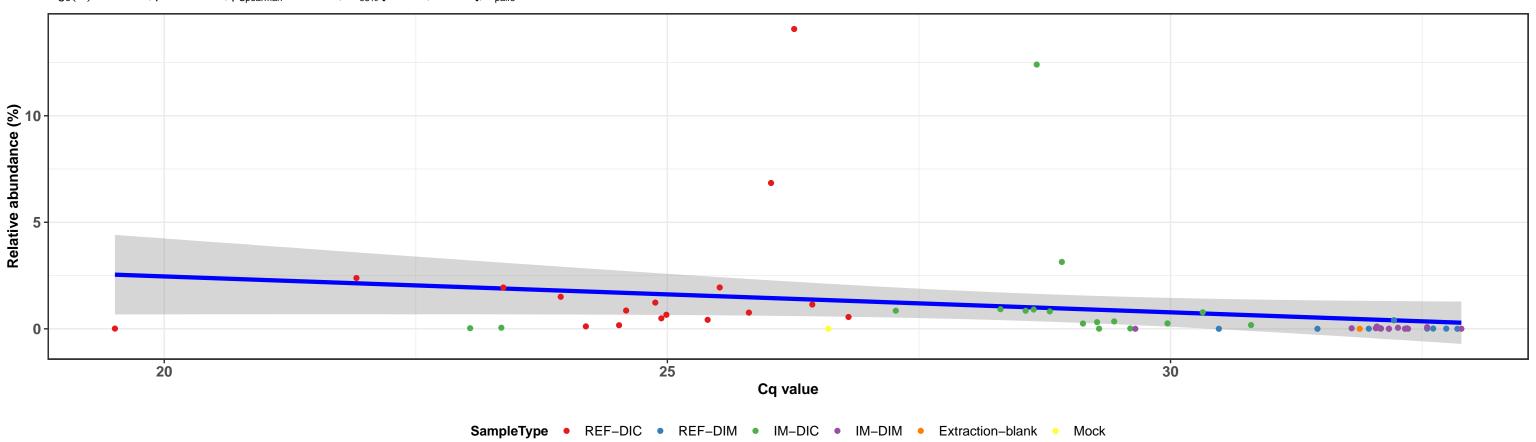
26

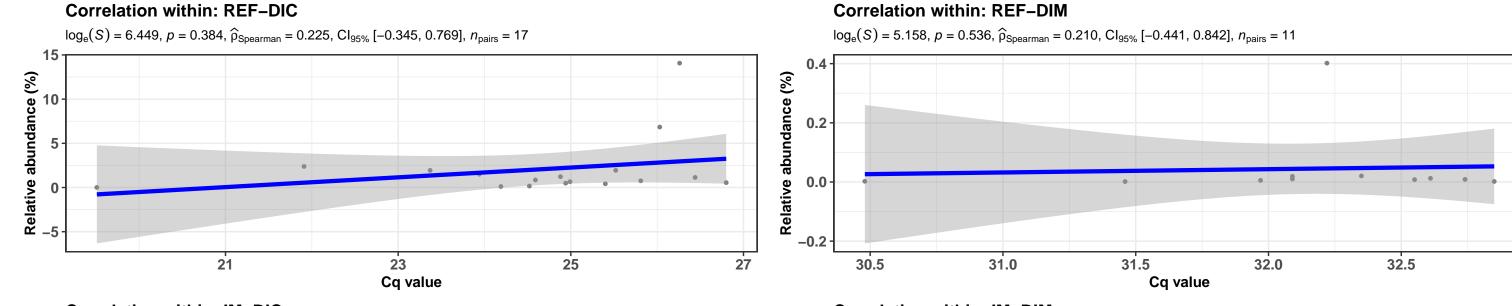


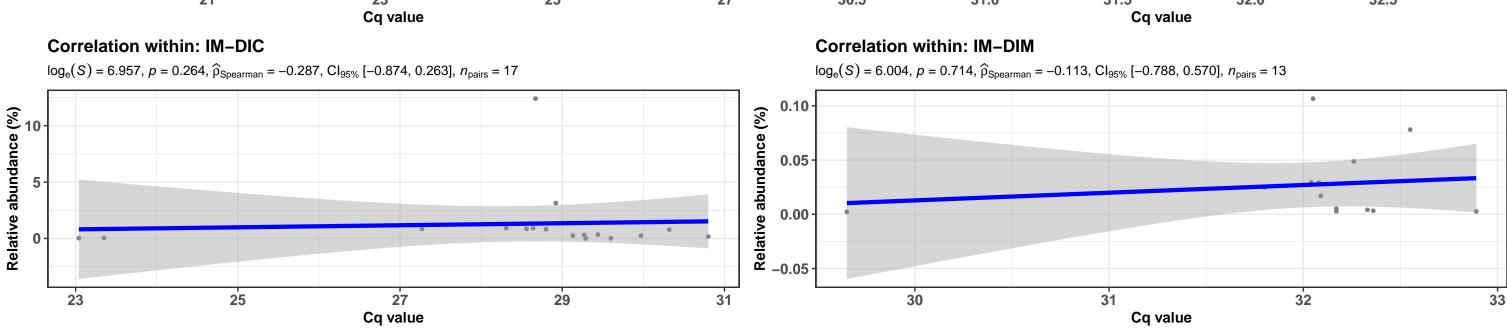


k\_\_Bacteria; p\_\_Tenericutes; c\_\_Mollicutes; o\_\_Mycoplasmatales; f\_\_Mycoplasmataceae; g\_\_Mycoplasma; s\_\_uncultured bacterium

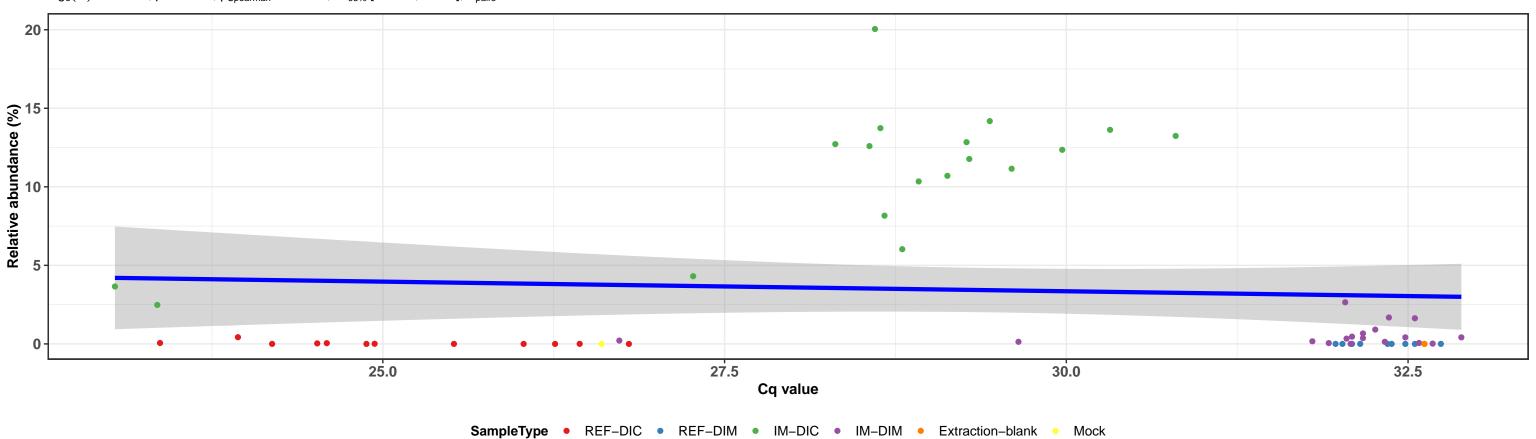
 $log_e(S) = 10.967$ , p = < 0.001,  $\widehat{\rho}_{Spearman} = -0.609$ ,  $Cl_{95\%}$  [-0.763, -0.478],  $n_{pairs} = 60$ 





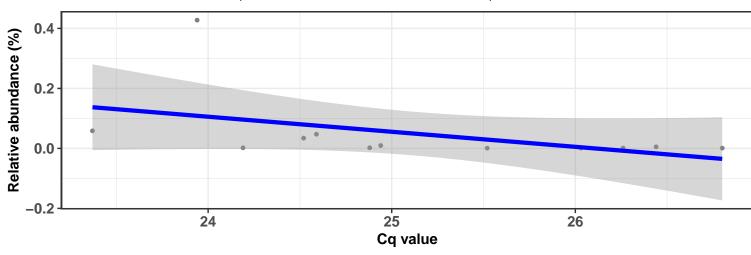


 $log_e(S) = 10.613$ , p = 0.324,  $\hat{\rho}_{Spearman} = -0.130$ ,  $Cl_{95\%}$  [-0.356, 0.074],  $n_{pairs} = 60$ 



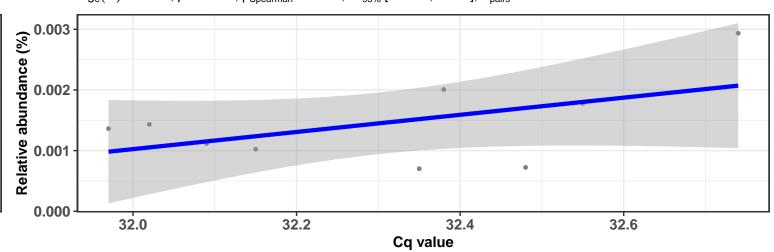
### Correlation within: REF-DIC

 $log_e(S) = 6.194$ , p = 0.009,  $\hat{\rho}_{Spearman} = -0.713$ ,  $Cl_{95\%}$  [-1.162, -0.425],  $n_{pairs} = 12$ 



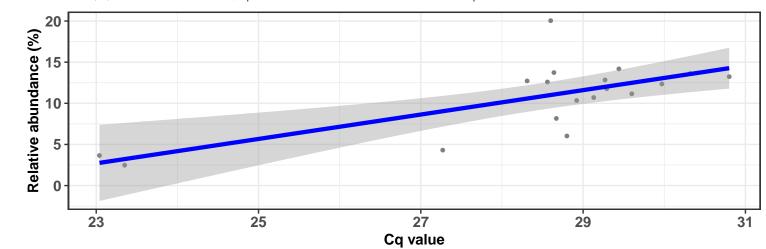
### Correlation within: REF-DIM

 $log_e(S) = 4.382, p = 0.381, \hat{\rho}_{Spearman} = 0.333, Cl_{95\%} [-0.408, 1.232], n_{pairs} = 9$ 



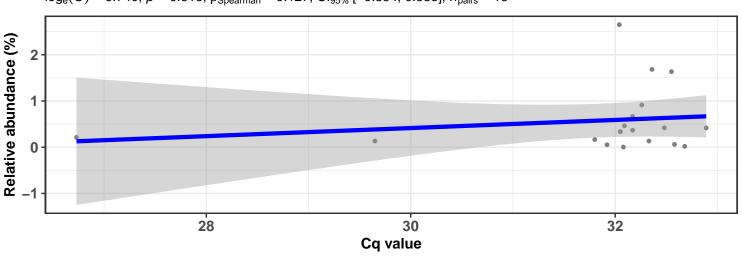
### **Correlation within: IM-DIC**

 $log_e(S) = 6.261, p = 0.055, \hat{p}_{Spearman} = 0.459, Cl_{95\%} [0.002, 0.980], n_{pairs} = 18$ 

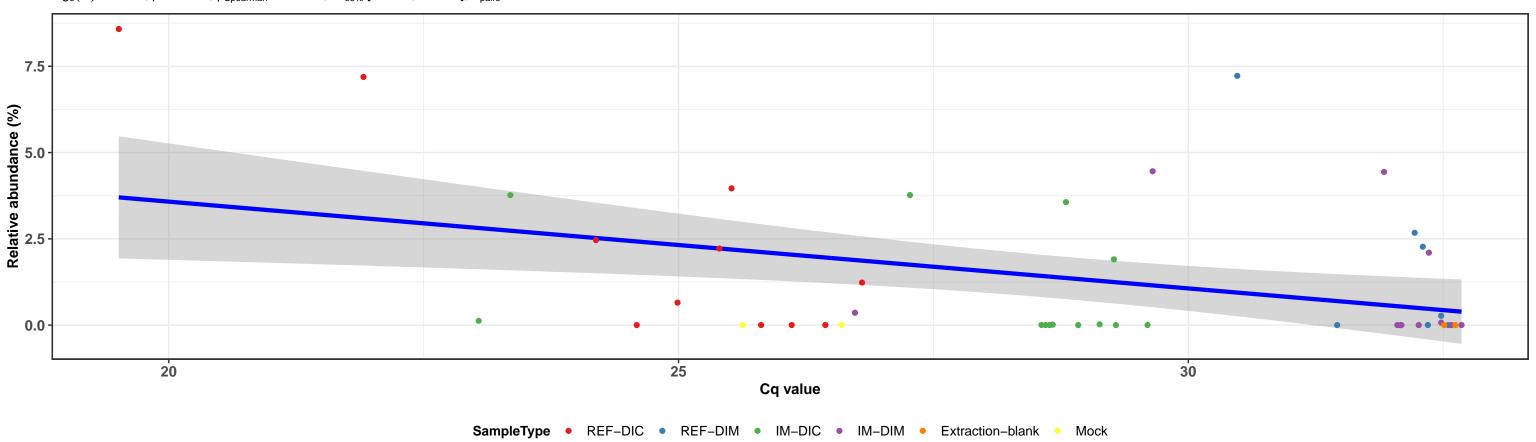


### Correlation within: IM-DIM

 $log_e(S) = 6.740, p = 0.616, \hat{\rho}_{Spearman} = 0.127, Cl_{95\%} [-0.354, 0.586], n_{pairs} = 18$ 

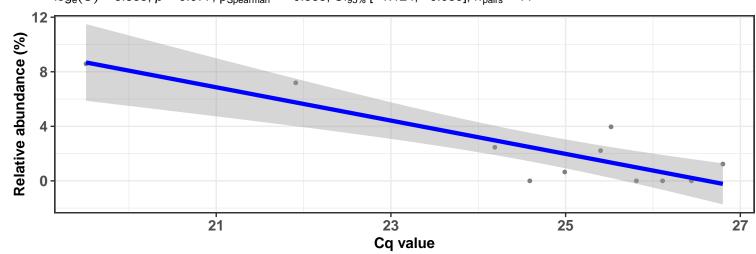


 $\log_{e}(S) = 9.993, p = 0.017, \widehat{\rho}_{Spearman} = -0.349, Cl_{95\%} [-0.673, -0.111], n_{pairs} = 46$ 



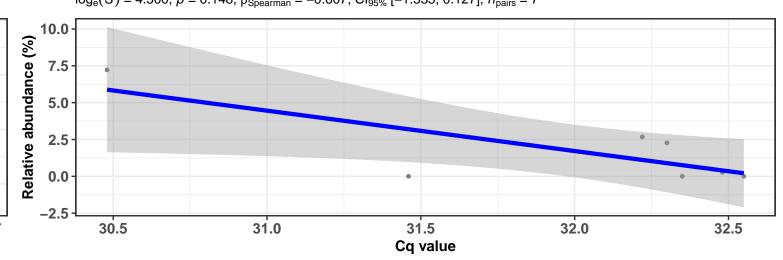


 $log_e(S) = 5.835, p = 0.077, \hat{\rho}_{Spearman} = -0.555, Cl_{95\%} [-1.124, -0.039], n_{pairs} = 11$ 



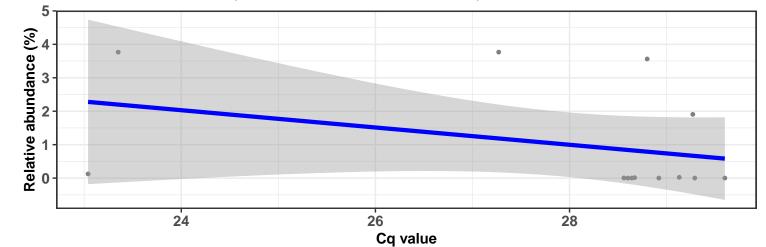
### Correlation within: REF-DIM

 $log_e(S) = 4.500, p = 0.148, \hat{\rho}_{Spearman} = -0.607, Cl_{95\%} [-1.335, 0.127], n_{pairs} = 7$ 



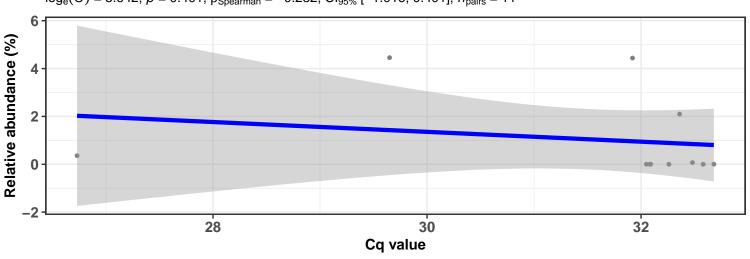
### Correlation within: IM-DIC

 $log_e(S) = 6.223, p = 0.194, \hat{\rho}_{Spearman} = -0.385, Cl_{95\%} [-0.963, 0.022], n_{pairs} = 13$ 



### Correlation within: IM-DIM

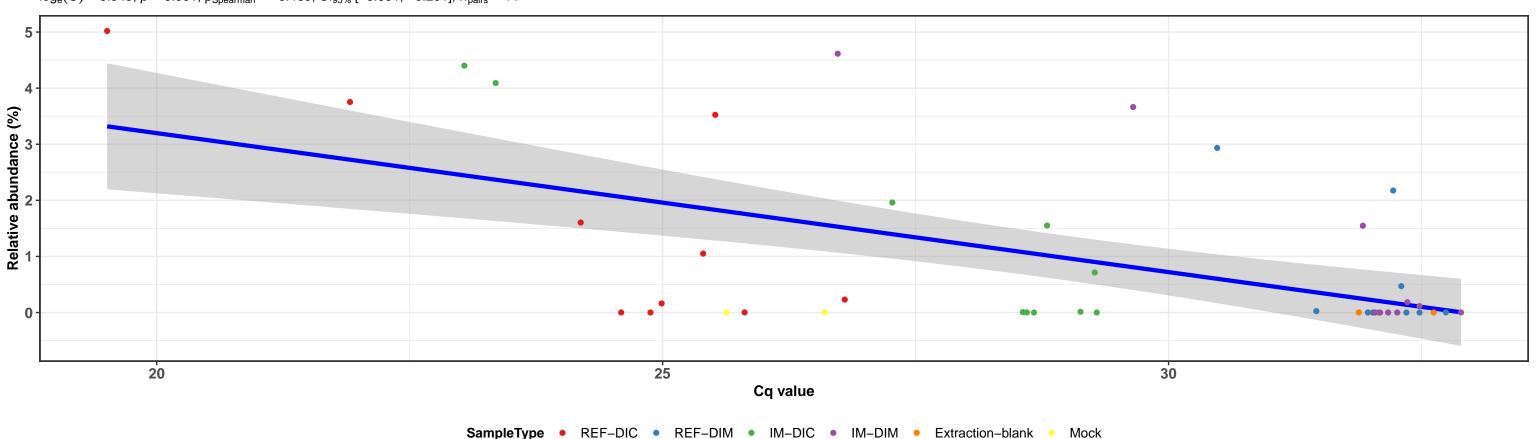
 $log_e(S) = 5.642, p = 0.401, \hat{\rho}_{Spearman} = -0.282, Cl_{95\%} [-1.016, 0.401], n_{pairs} = 11$ 



k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Vibrionales; f\_\_Vibrionaceae; g\_\_Aliivibrio; s\_\_uncultured bacterium

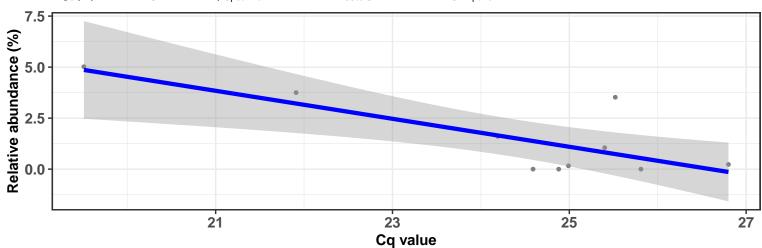


 $log_e(S) = 9.945$ , p = 0.001,  $\hat{\rho}_{Spearman} = -0.469$ ,  $Cl_{95\%}$  [-0.691, -0.201],  $n_{pairs} = 44$ 



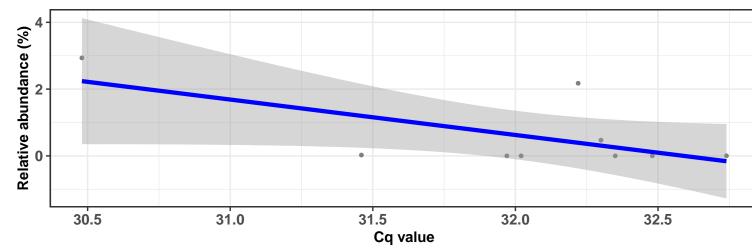
### **Correlation within: REF-DIC**

 $log_e(S) = 5.447, p = 0.244, \hat{\rho}_{Spearman} = -0.406, Cl_{95\%} [-1.145, 0.240], n_{pairs} = 10$ 



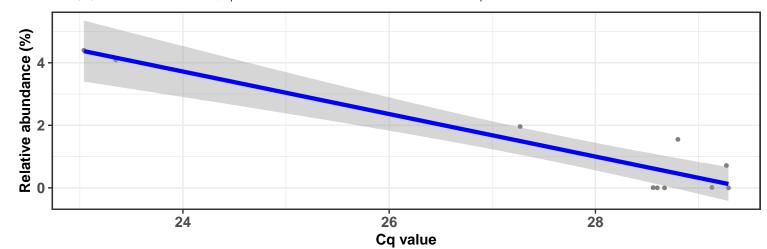
### Correlation within: REF-DIM

 $log_e(S) = 5.147$ , p = 0.244,  $\hat{\rho}_{Spearman} = -0.433$ ,  $Cl_{95\%}$  [-1.125, 0.202],  $n_{pairs} = 9$ 



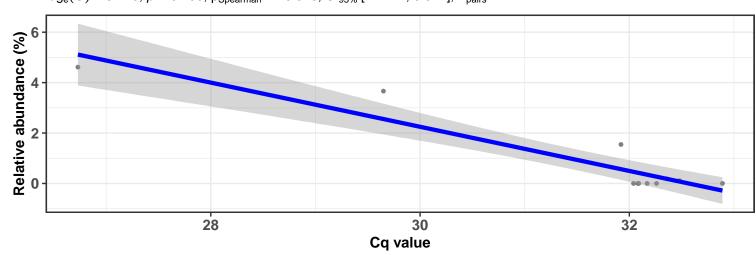
### Correlation within: IM-DIC

 $log_e(S) = 5.583$ , p = 0.060,  $\hat{\rho}_{Spearman} = -0.612$ ,  $Cl_{95\%}$  [-1.187, -0.050],  $n_{pairs} = 10$ 

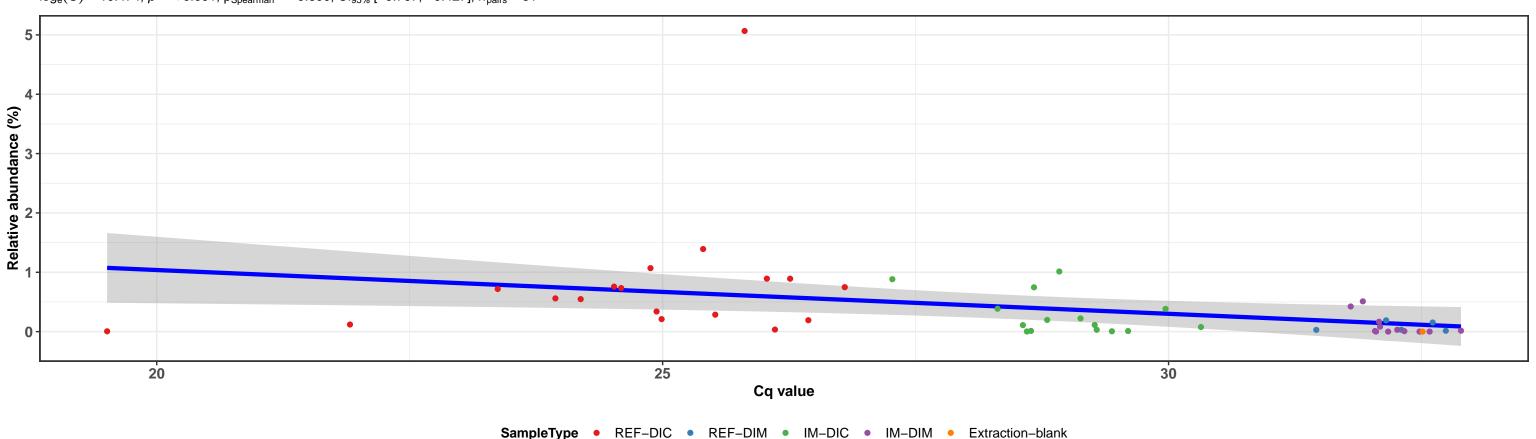


### Correlation within: IM-DIM

 $log_e(S) = 5.710$ , p = 0.259,  $\widehat{\rho}_{Spearman} = -0.373$ ,  $Cl_{95\%}$  [-1.124, 0.312],  $n_{pairs} = 11$ 

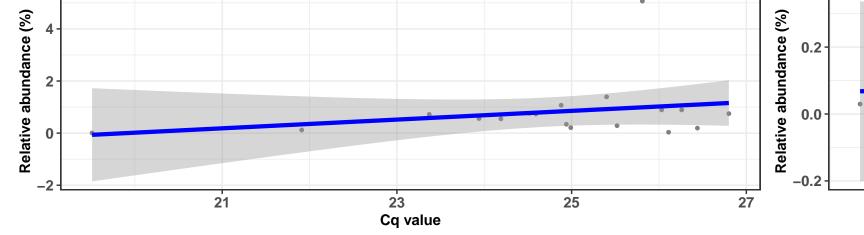


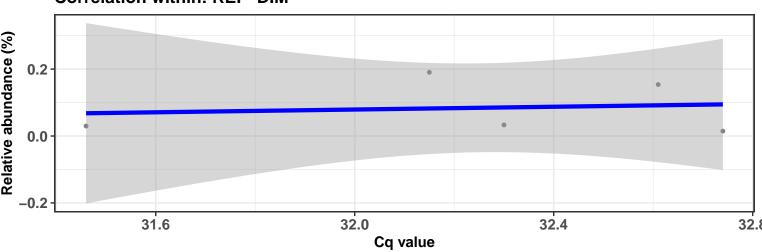
 $\log_{\rm e}(S) = 10.474, \, p = <0.001, \, \widehat{\rho}_{\rm Spearman} = -0.600, \, {\rm Cl}_{95\%} \, [-0.767, \, -0.427], \, n_{\rm pairs} = 51$ 



### Correlation within: REF-DIC

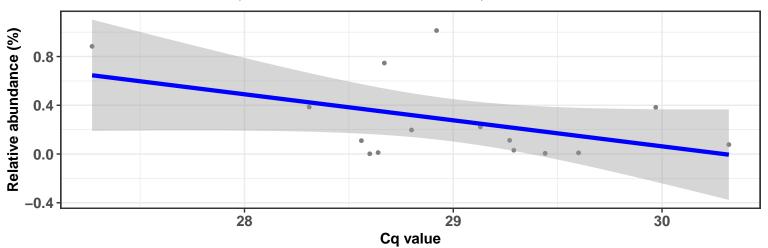






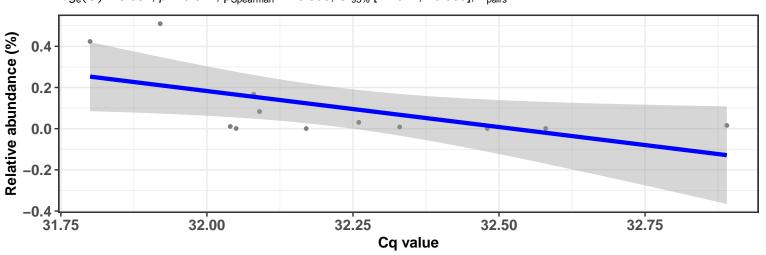
### Correlation within: IM-DIC

 $log_e(S) = 6.590, p = 0.277, \hat{\rho}_{Spearman} = -0.300, Cl_{95\%} [-0.859, 0.229], n_{pairs} = 15$ 



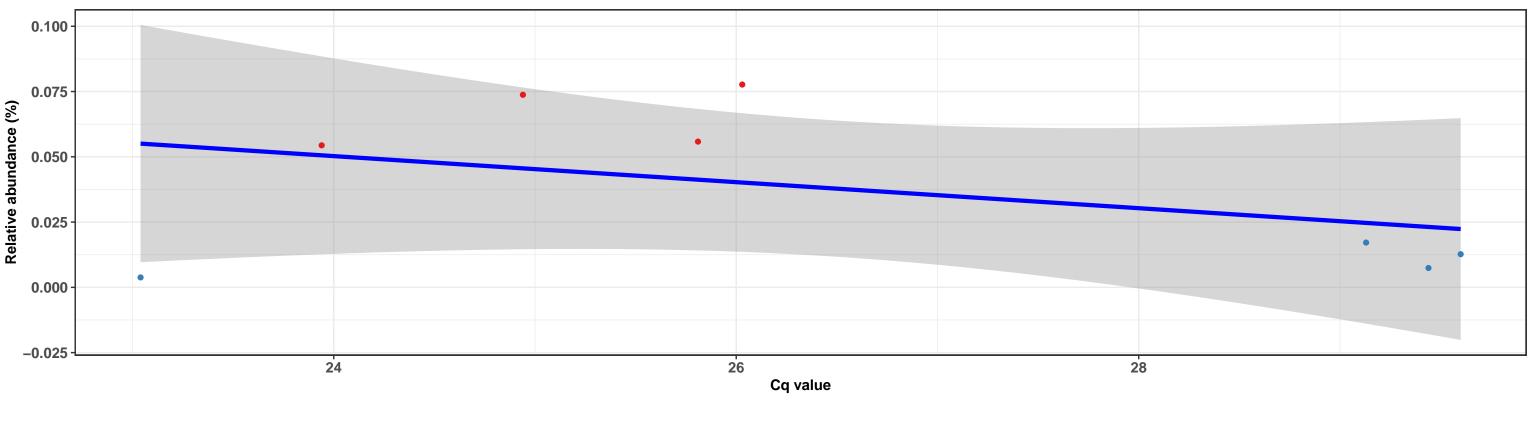
### Correlation within: IM-DIM

 $log_e(S) = 6.087, p = 0.071, \hat{\rho}_{Spearman} = -0.538, Cl_{95\%} [-1.021, -0.093], n_{pairs} = 12$ 

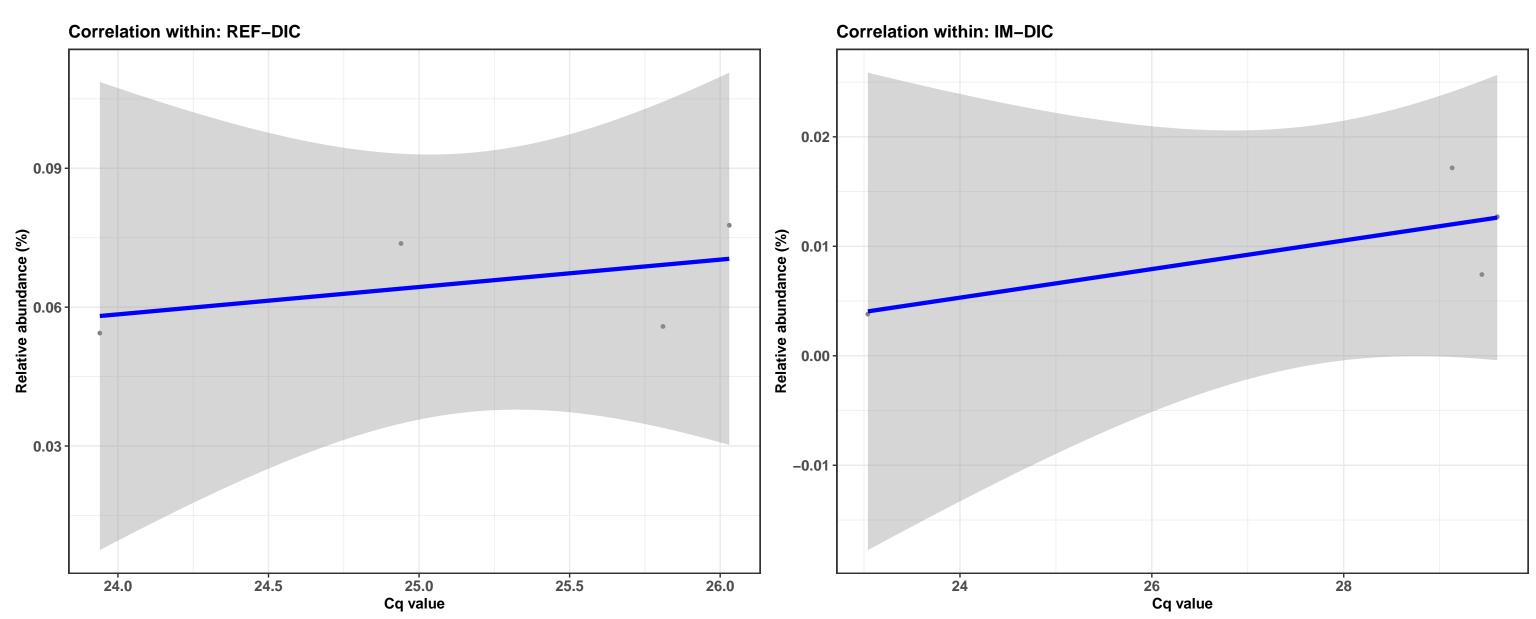


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Bacillaceae; g\_\_Bacillus; NA

 $log_e(S) = 4.522, p = 0.823, \hat{\rho}_{Spearman} = -0.095, Cl_{95\%} [-0.995, 0.971], n_{pairs} = 8$ 

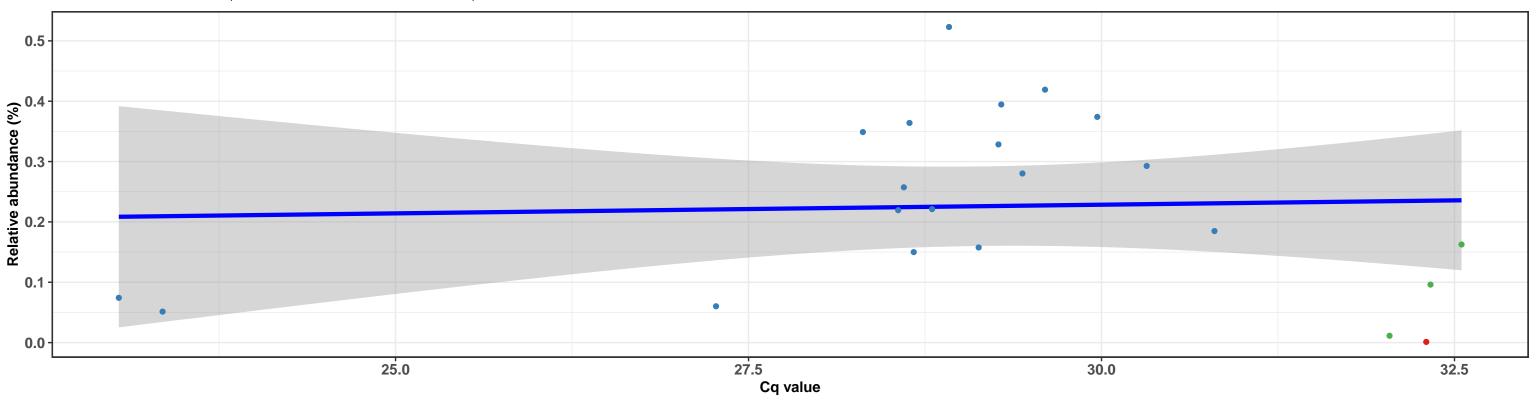




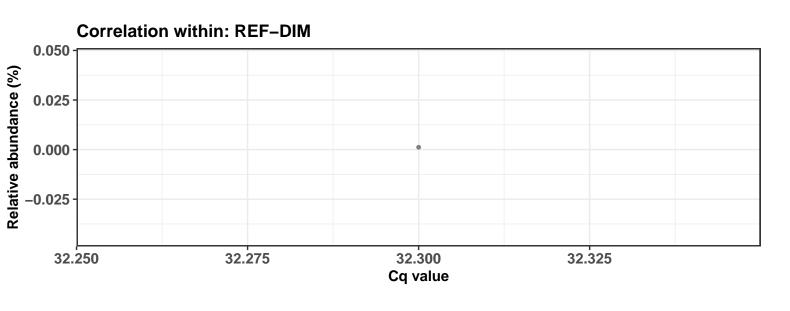


k\_\_Bacteria; p\_\_Actinobacteria; c\_\_Actinobacteria; o\_\_Micrococcales; f\_\_Brevibacteriaceae; g\_\_Brevibacterium; s\_\_Brevibacterium album

 $log_e(S) = 7.483$ , p = 0.986,  $\hat{\rho}_{Spearman} = -0.004$ ,  $Cl_{95\%}$  [-0.404, 0.531],  $n_{pairs} = 22$ 

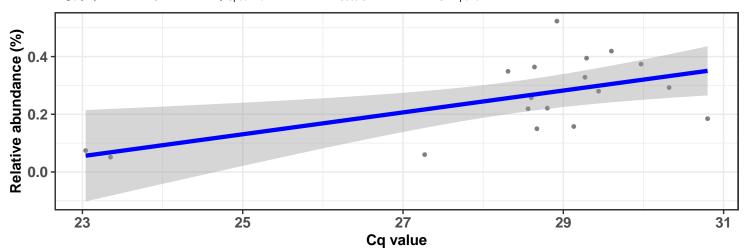


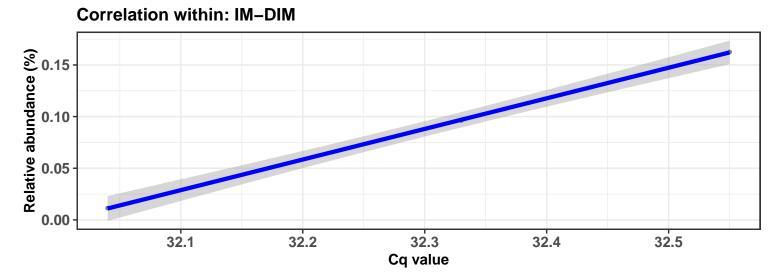




### Correlation within: IM-DIC

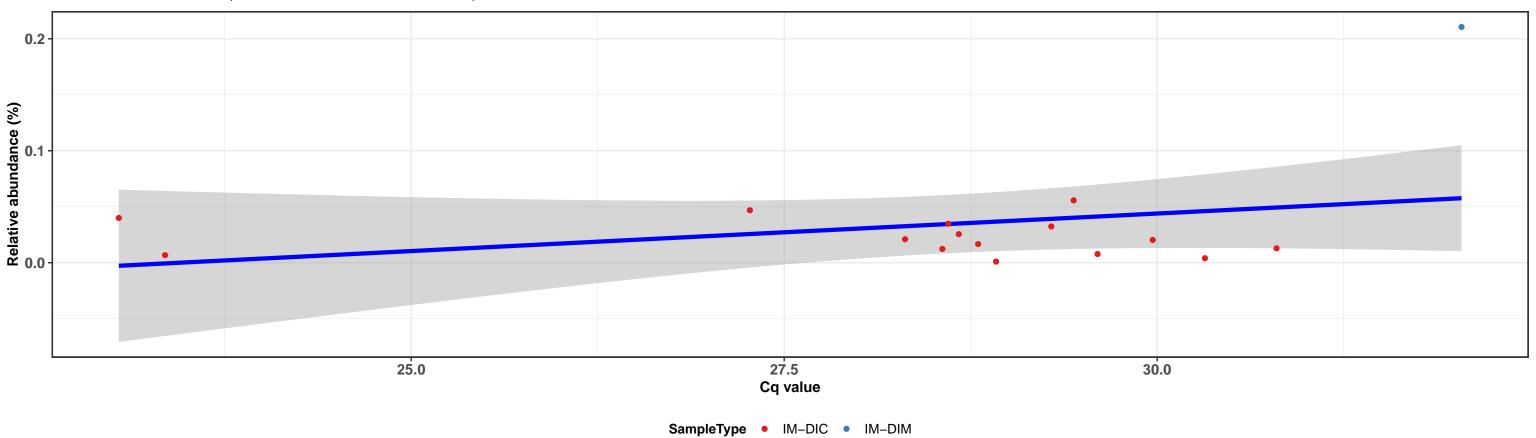
 $log_e(S) = 6.165, p = 0.031, \hat{\rho}_{Spearman} = 0.509, Cl_{95\%} [0.117, 0.872], n_{pairs} = 18$ 



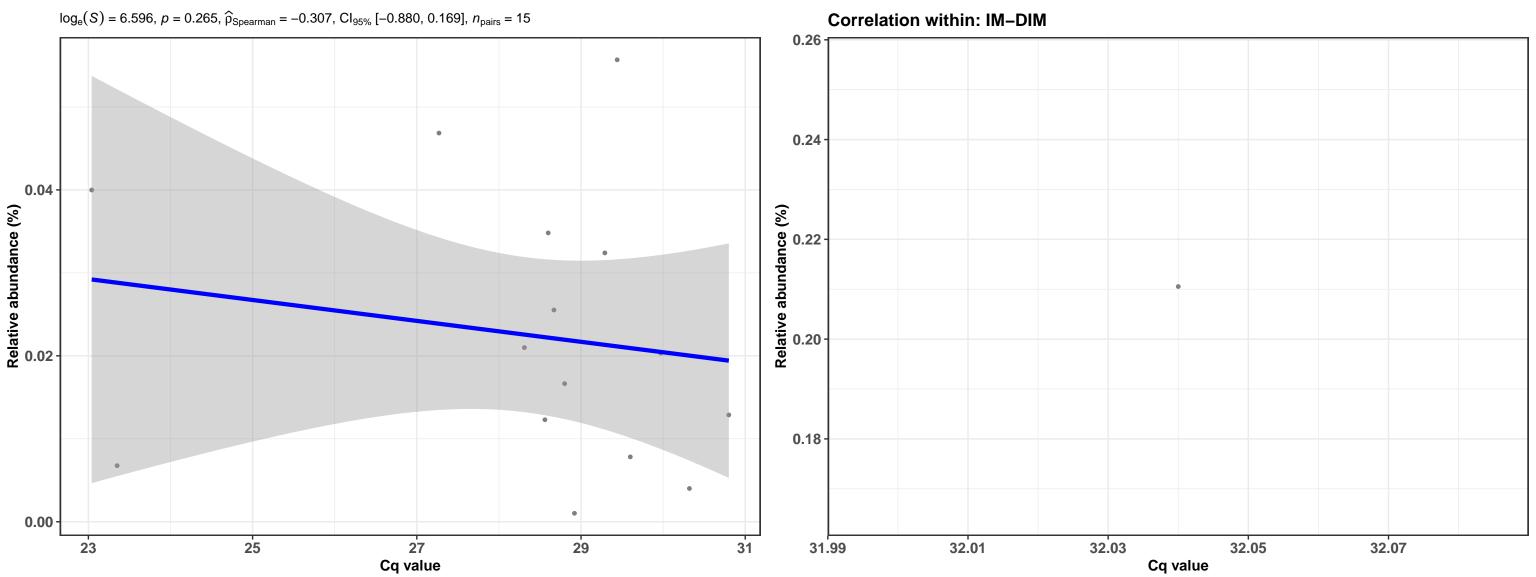


k\_Bacteria; p\_Actinobacteria; c\_Actinobacteria; o\_Actinomycetales; f\_Actinomycetaceae; g\_Actinomyces; s\_uncultured Actinomycetales bacterium

 $\log_{e}(S) = 6.596, p = 0.778, \hat{\rho}_{Spearman} = -0.076, Cl_{95\%}$  [-0.692, 0.446],  $n_{pairs} = 16$ 



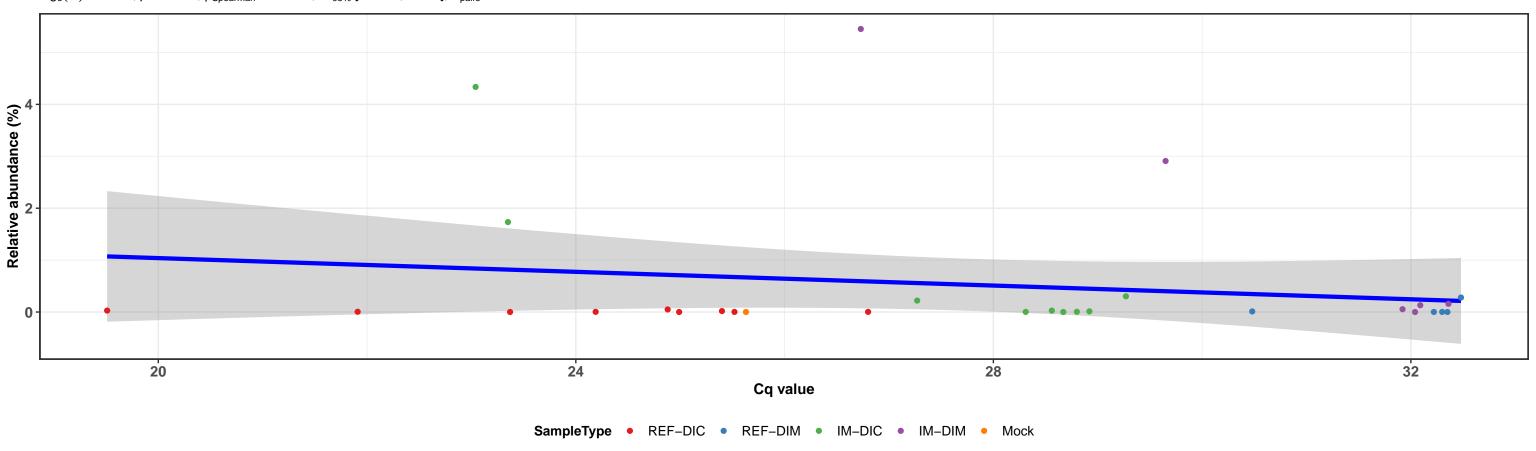




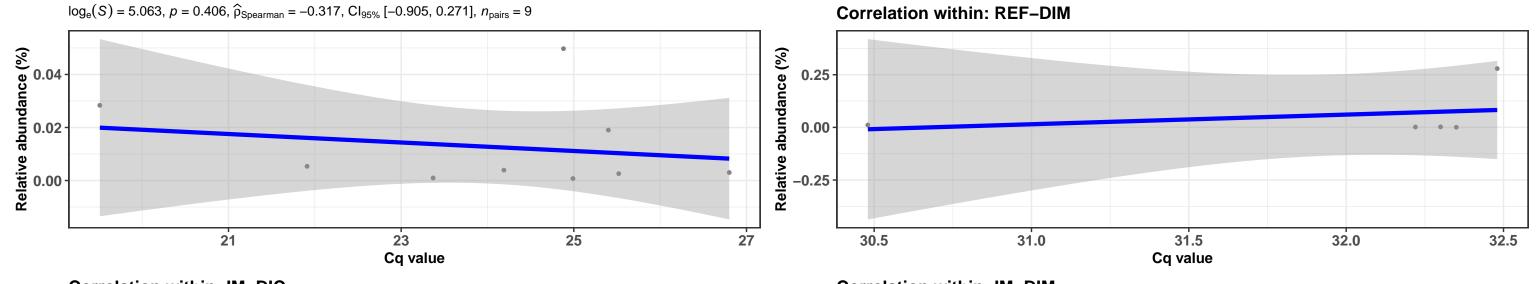
k\_Bacteria; p\_Proteobacteria; c\_Gammaproteobacteria; o\_Alteromonadales; f\_Marinobacteraceae; g\_Marinobacter; s\_Marinobacter adhaerens **Correlation with all samples** 0.0015 Relative abundance (%) 0.0005 32 26 28 30 Cq value SampleType • REF-DIC • REF-DIM • IM-DIC • IM-DIM **Correlation within: REF-DIC Correlation within: REF-DIM** 0.050 0.050 Relative abundance (%) Relative abundance (%) 0.025 0.000 -0.025 24.875 32.06 32.10 32.12 24.850 24.900 24.925 32.08 32. Cq value Cq value Correlation within: IM-DIC Correlation within: IM-DIM 0.050 Relative abundance (%) 0.0000 0.00000 0.00000 Relative abundance (%) 32.5 28.775 32.3 32.9 28.750 28.800 28.825 28.8 32.7 Cq value Cq value

k\_Bacteria; p\_Proteobacteria; c\_Gammaproteobacteria; o\_Vibrionales; f\_Vibrionaceae; g\_Aliivibrio; s\_uncultured bacterium

 $log_e(S) = 8.469, p = 0.753, \hat{\rho}_{Spearman} = -0.060, Cl_{95\%} [-0.475, 0.337], n_{pairs} = 30$ 

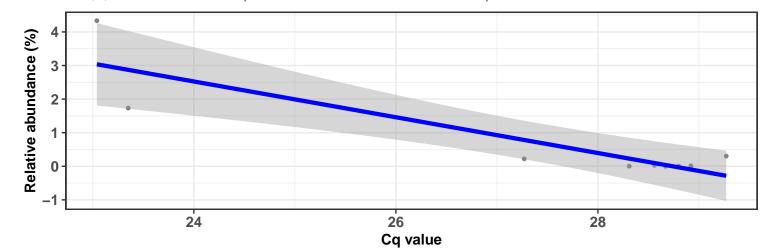


### **Correlation within: REF-DIC**

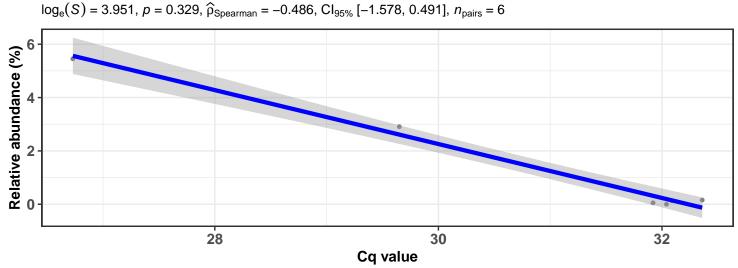


### Correlation within: IM-DIC

 $log_e(S) = 5.159, p = 0.224, \widehat{\rho}_{Spearman} = -0.450, Cl_{95\%}$  [-1.170, 0.272],  $n_{pairs} = 9$ 

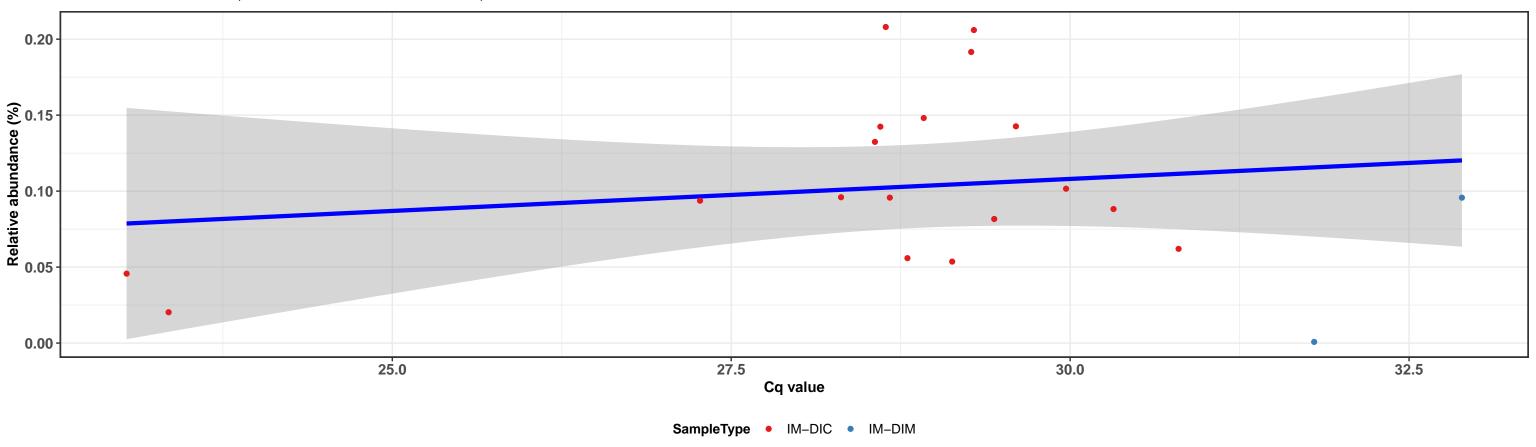


## Correlation within: IM-DIM

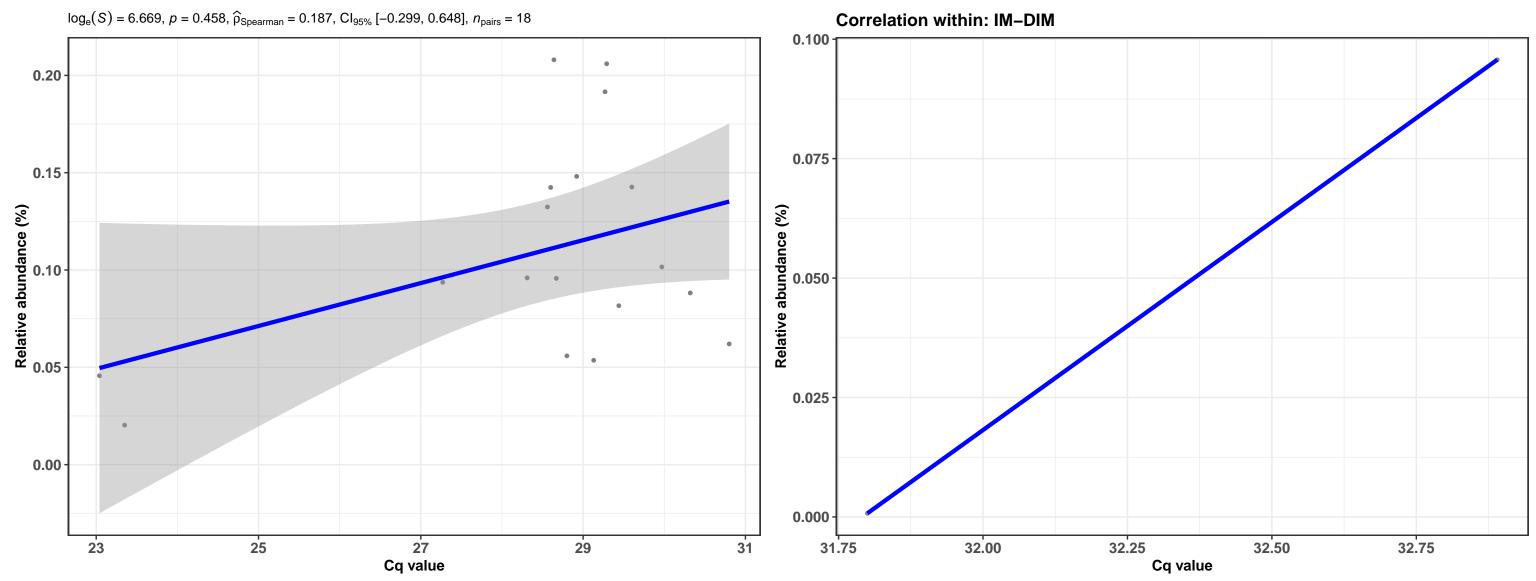


k\_\_Bacteria; p\_\_Actinobacteria; c\_\_Actinobacteria; o\_\_Micrococcales; f\_\_Brevibacteriaceae; g\_\_Brevibacterium; NA

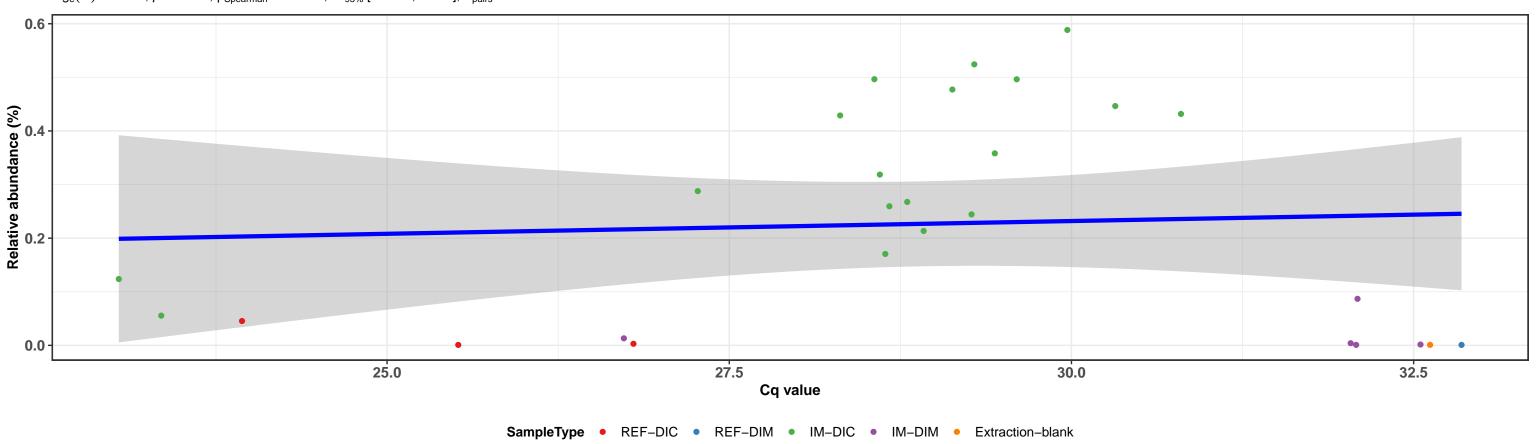
 $log_e(S) = 7.199, p = 0.980, \hat{\rho}_{Spearman} = -0.006, Cl_{95\%} [-0.500, 0.473], n_{pairs} = 20$ 

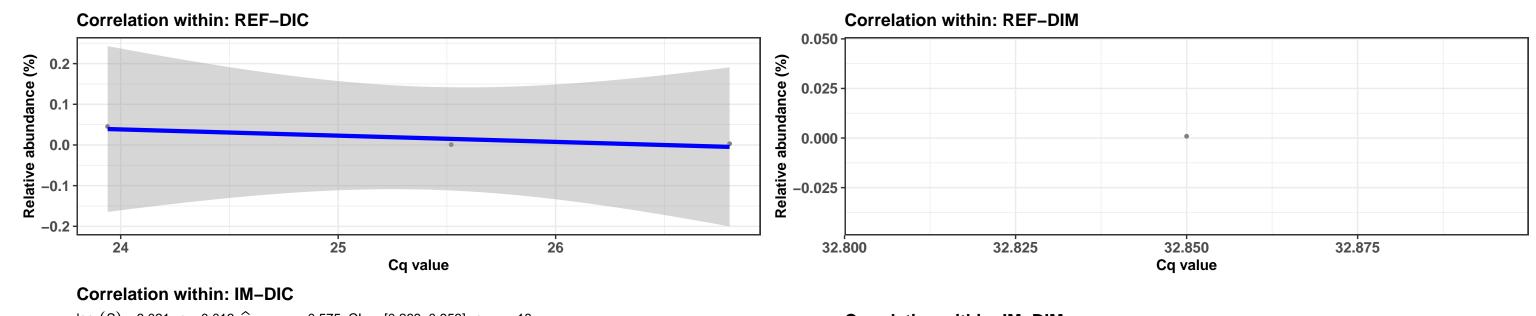


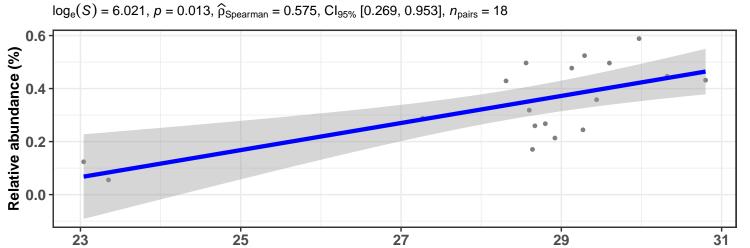




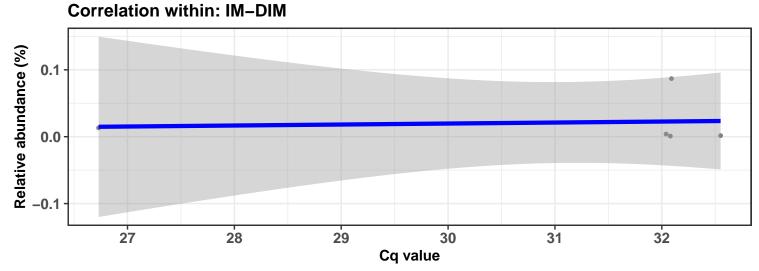
 $log_e(S) = 8.233, p = 0.879, \hat{\rho}_{Spearman} = -0.030, Cl_{95\%} [-0.516, 0.431], n_{pairs} = 28$ 







Cq value



k\_Bacteria; p\_Actinobacteria; c\_Actinobacteria; o\_Actinomycetales; f\_Actinomycetaceae; g\_Actinomyces; s\_uncultured Actinomycetales bacterium

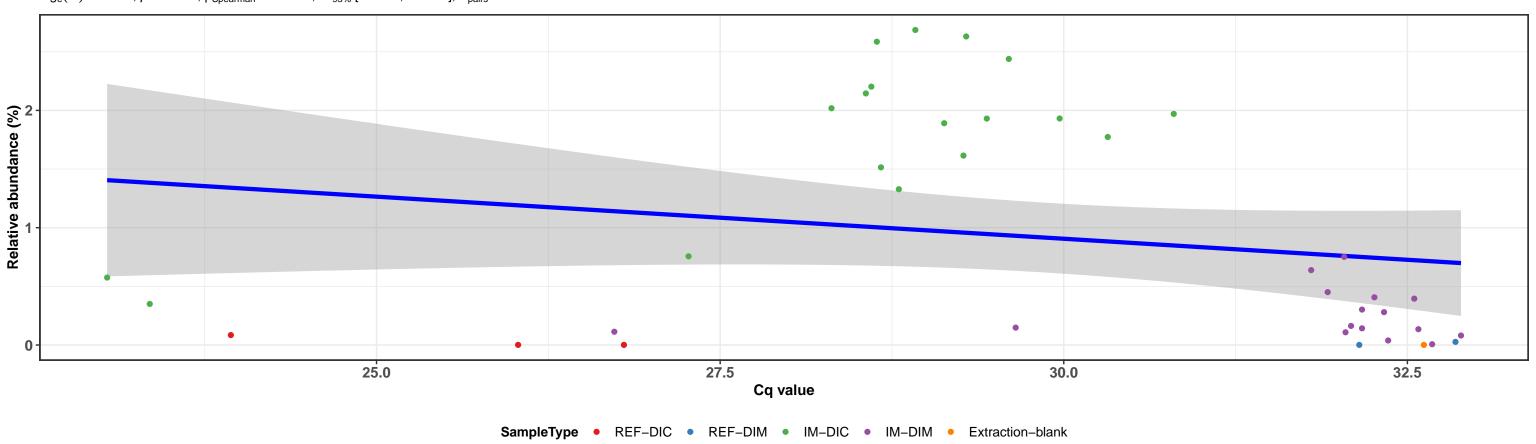
23

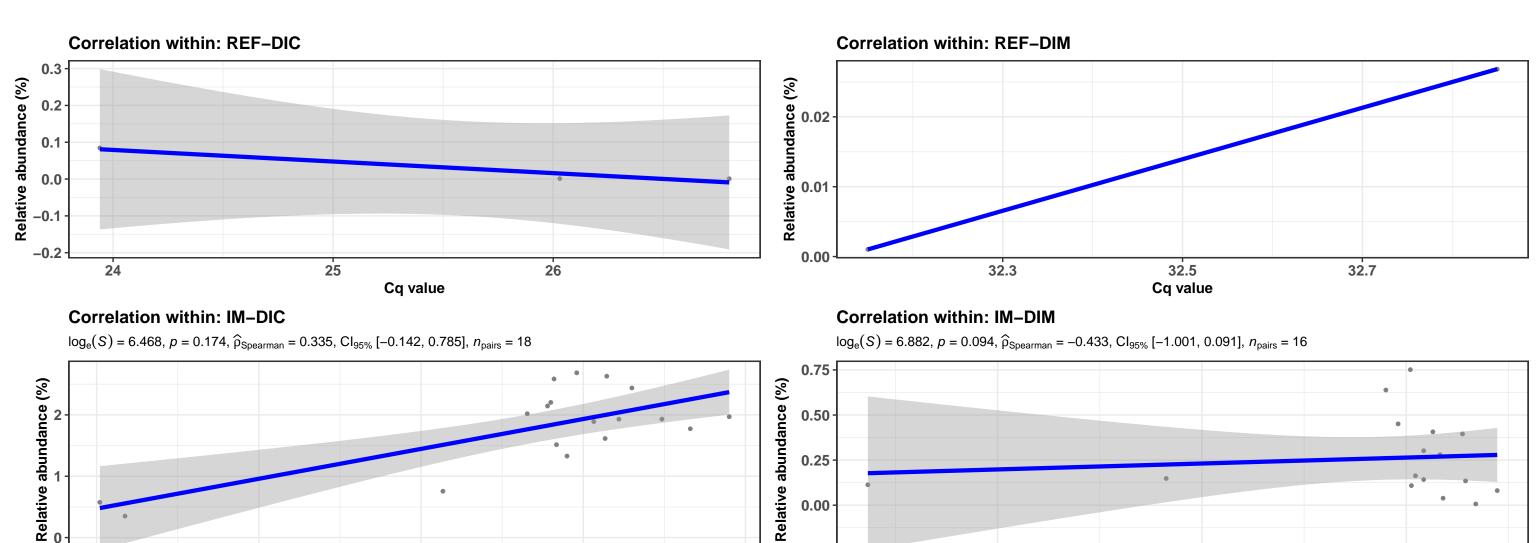
25

27

Cq value

 $log_e(S) = 9.597$ , p = 0.015,  $\widehat{\rho}_{Spearman} = -0.381$ ,  $Cl_{95\%}$  [-0.676, -0.081],  $n_{pairs} = 40$ 





0.25

0.00

28

30

Cq value

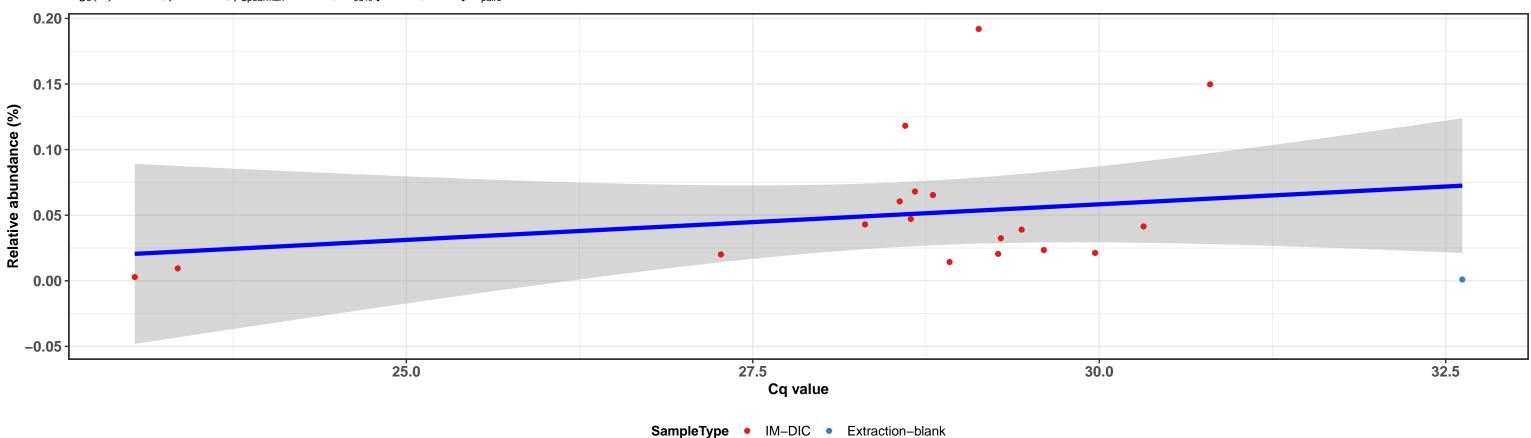
32

31

29

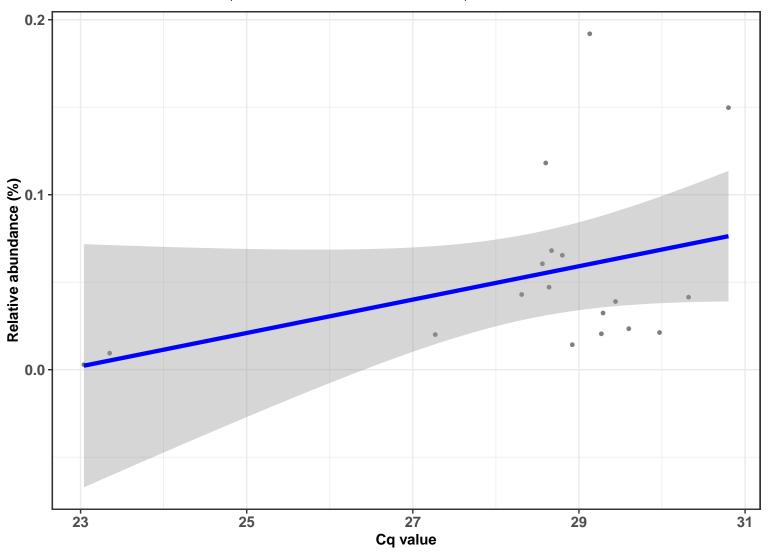
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; Ambiguous\_taxa

 $log_e(S) = 6.972$ , p = 0.792,  $\hat{\rho}_{Spearman} = 0.065$ ,  $Cl_{95\%}$  [-0.547, 0.641],  $n_{pairs} = 19$ 

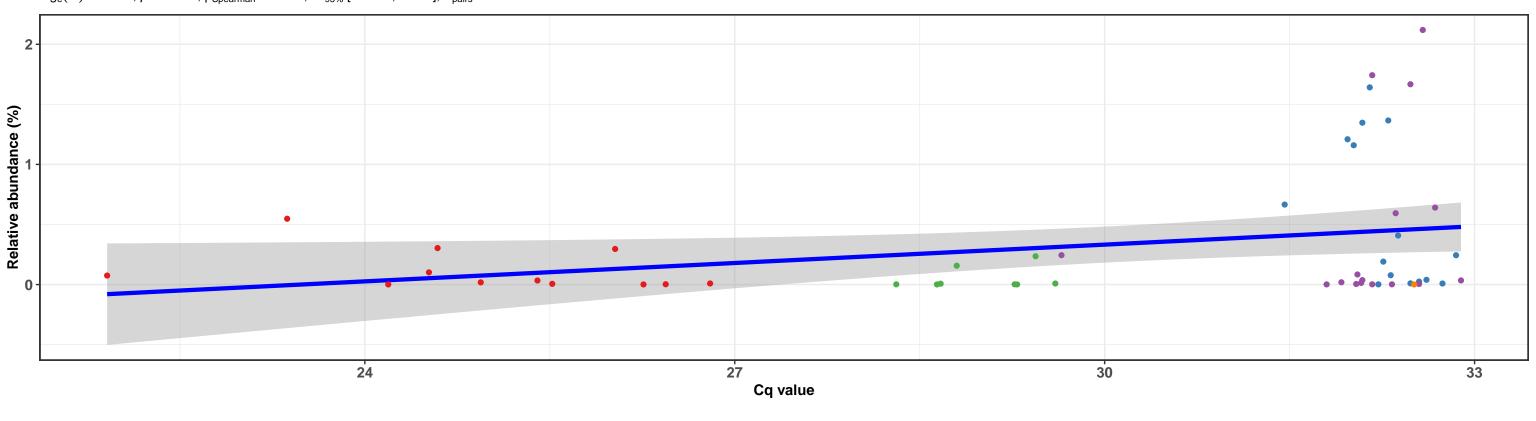


### Correlation within: IM-DIC

 $log_e(S) = 6.585$ , p = 0.311,  $\hat{\rho}_{Spearman} = 0.253$ ,  $Cl_{95\%}$  [-0.274, 0.849],  $n_{pairs} = 18$ 



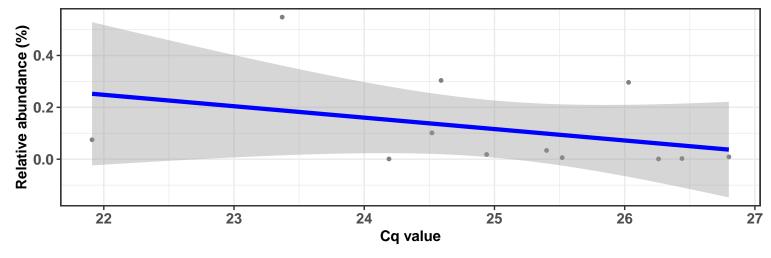
 $log_e(S) = 9.818$ , p = 0.124,  $\widehat{\rho}_{Spearman} = 0.216$ ,  $Cl_{95\%}$  [-0.034, 0.458],  $n_{pairs} = 52$ 





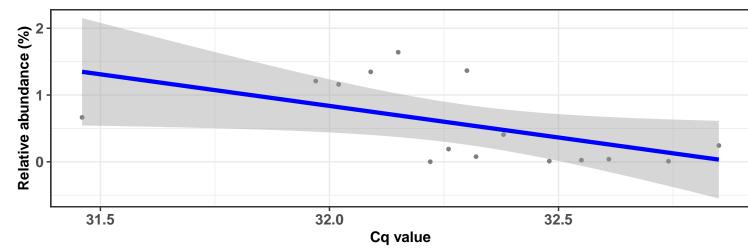
### Correlation within: REF-DIC

 $log_e(S) = 6.011, p = 0.167, \hat{\rho}_{Spearman} = -0.427, Cl_{95\%} [-1.048, 0.131], n_{pairs} = 12$ 



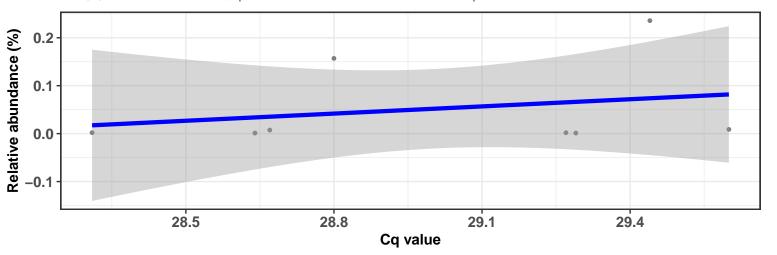
### Correlation within: REF-DIM

 $log_e(S) = 6.782, p = 0.025, \hat{\rho}_{Spearman} = -0.575, Cl_{95\%} [-0.937, -0.296], n_{pairs} = 15$ 



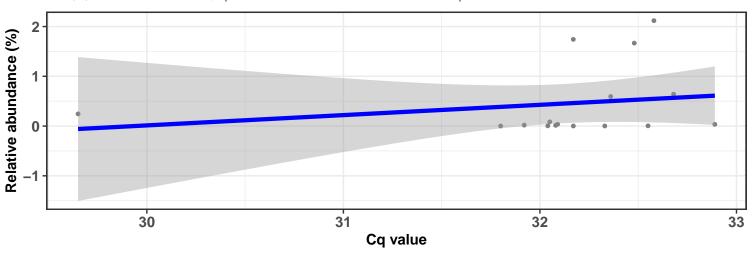
### Correlation within: IM-DIC

 $log_e(S) = 4.025$ , p = 0.420,  $\hat{\rho}_{Spearman} = 0.333$ ,  $Cl_{95\%}$  [-0.314, 1.185],  $n_{pairs} = 8$ 



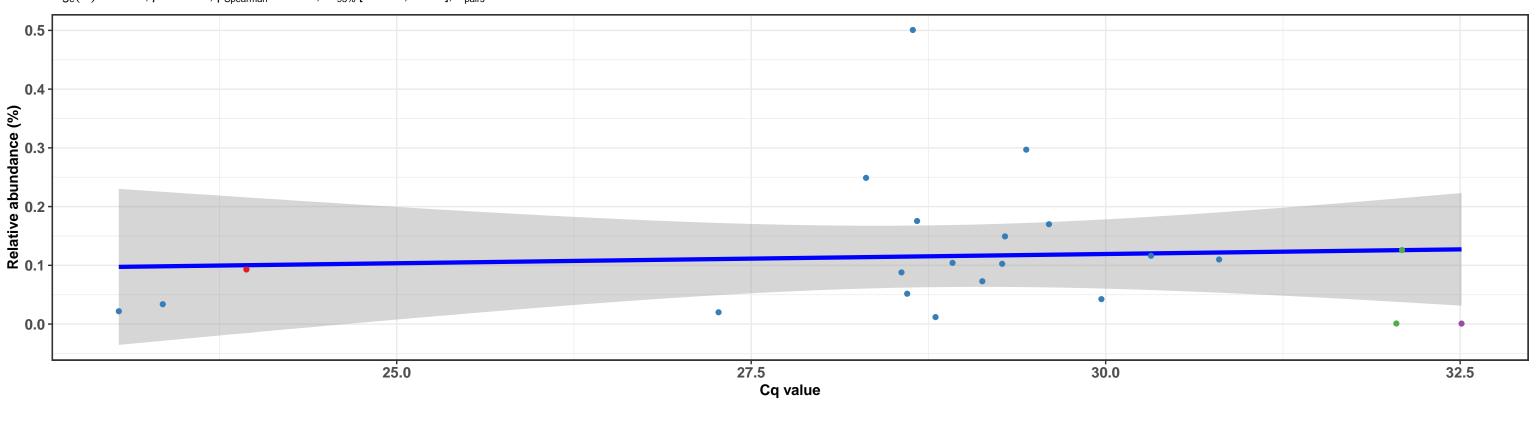
### Correlation within: IM-DIM

 $log_e(S) = 6.042, p = 0.145, \hat{p}_{Spearman} = 0.381, Cl_{95\%} [-0.089, 0.874], n_{pairs} = 16$ 

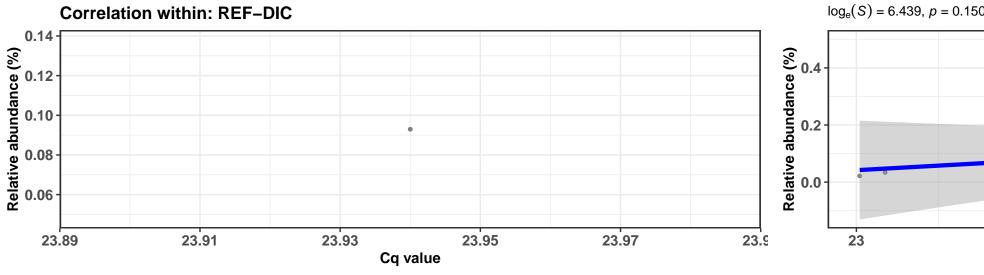


k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Pseudomonadales; f\_\_Pseudomonadaceae; g\_\_Pseudomonas; s\_\_uncultured bacterium

 $log_e(S) = 7.421$ , p = 0.801,  $\widehat{\rho}_{Spearman} = 0.057$ ,  $Cl_{95\%}$  [-0.471, 0.569],  $n_{pairs} = 22$ 

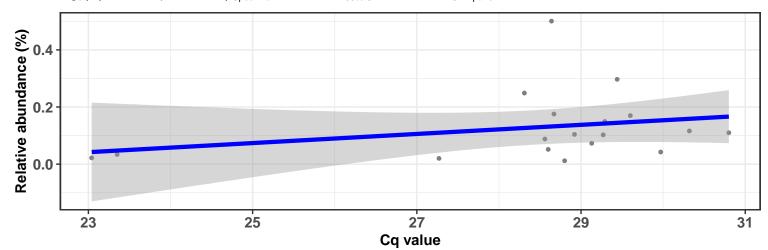


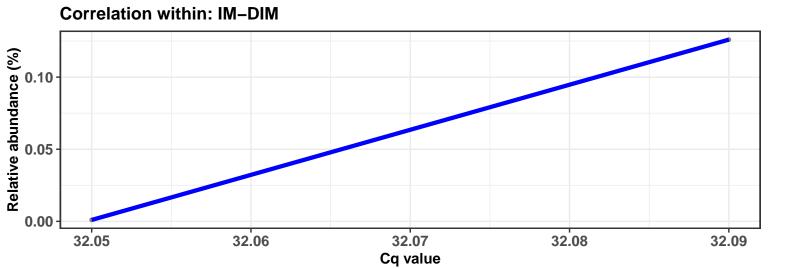




### Correlation within: IM-DIC

 $log_e(S) = 6.439, p = 0.150, \hat{\rho}_{Spearman} = 0.354, Cl_{95\%} [-0.025, 0.753], n_{pairs} = 18$ 

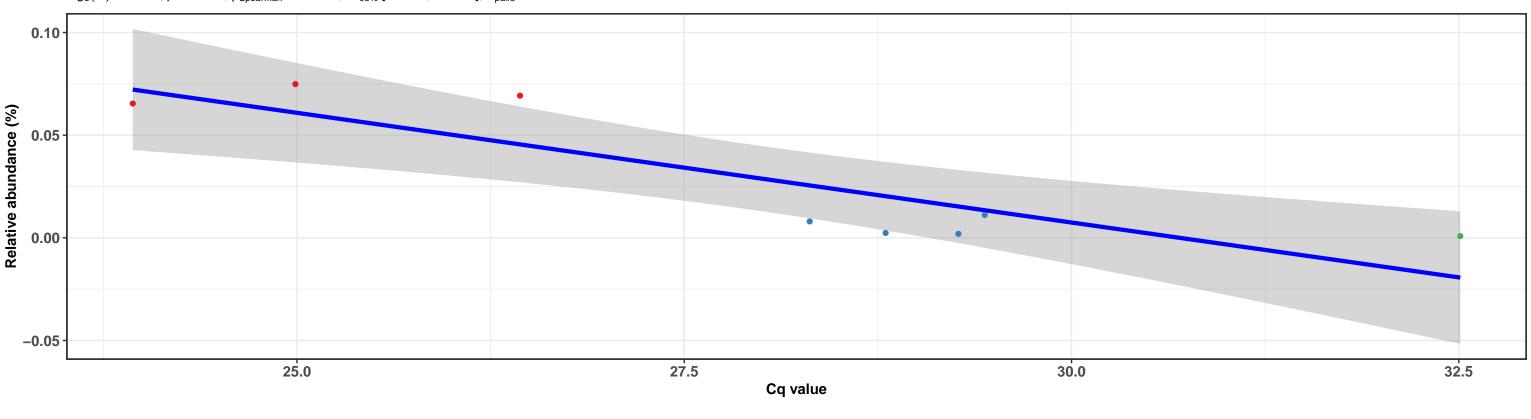


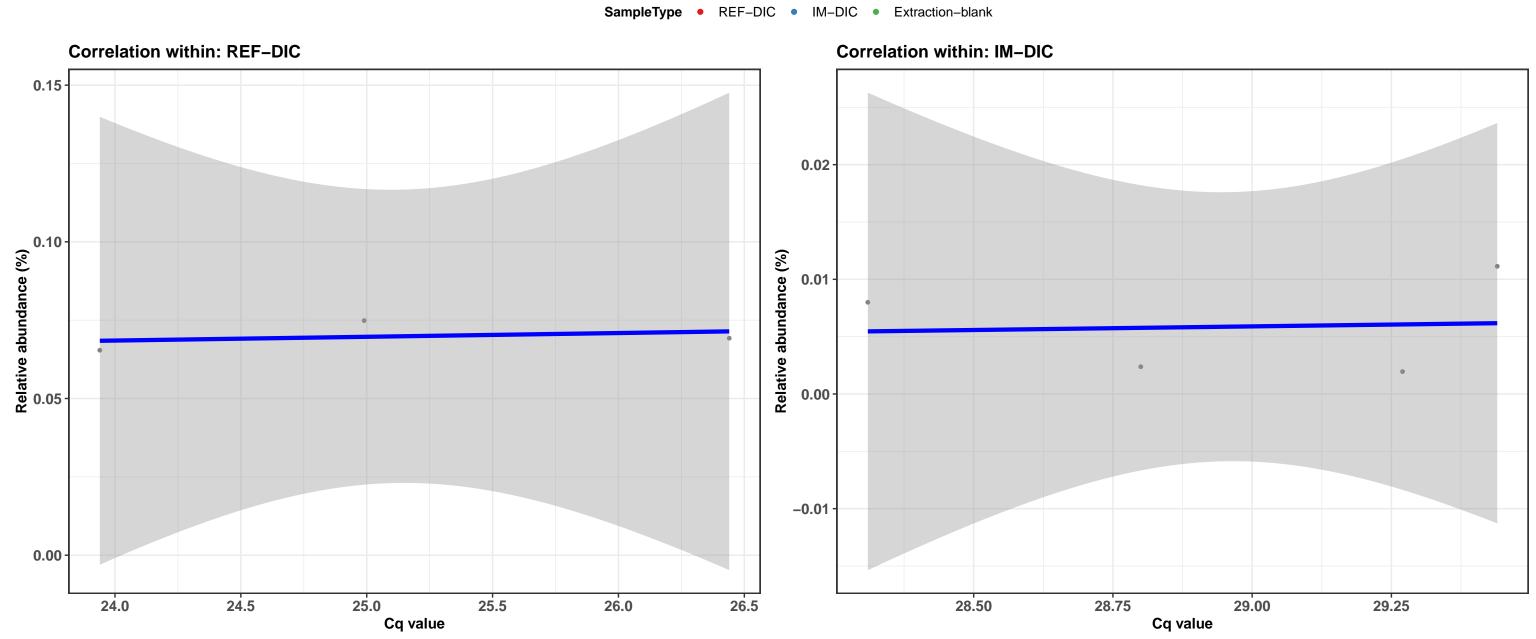


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Erysipelotrichia; o\_\_Erysipelotrichales; f\_\_Erysipelotrichaceae; NA; NA



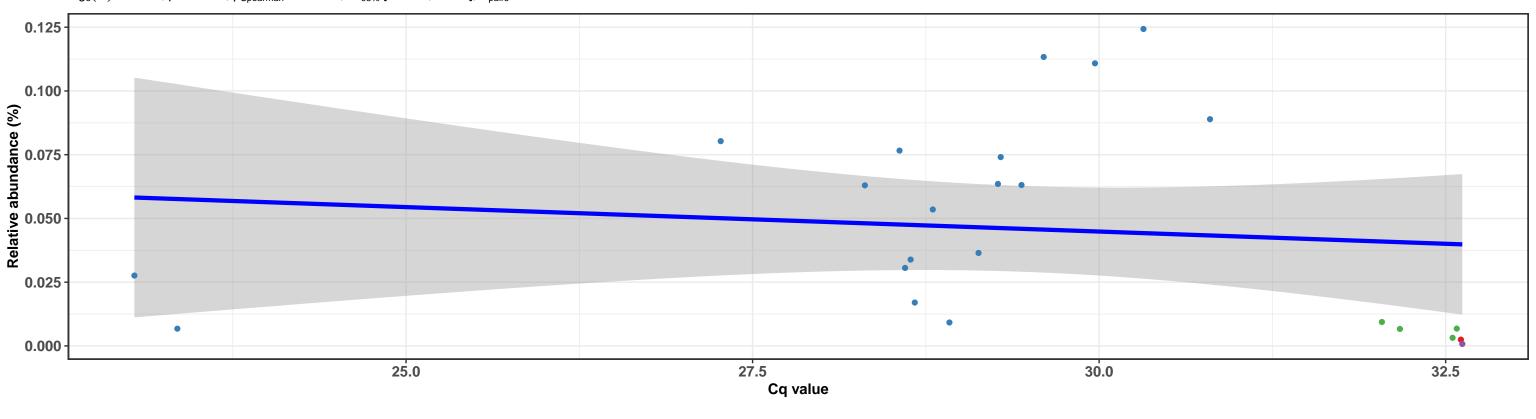
 $log_e(S) = 5.011$ , p = 0.021,  $\hat{\rho}_{Spearman} = -0.786$ ,  $Cl_{95\%}$  [-1.110, -0.458],  $n_{pairs} = 8$ 

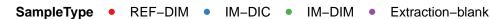




k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Bacillaceae; g\_\_Oceanobacillus; Ambiguous\_taxa

 $log_e(S) = 7.981$ , p = 0.200,  $\hat{\rho}_{Spearman} = -0.271$ ,  $Cl_{95\%}$  [-0.780, 0.174],  $n_{pairs} = 24$ 

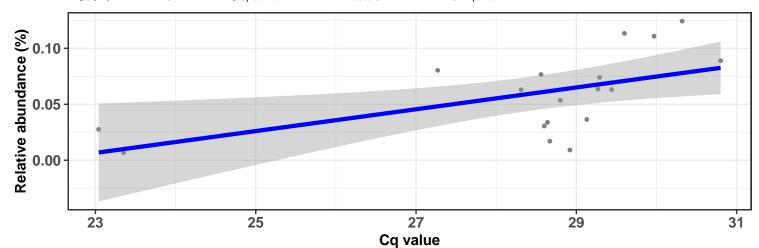


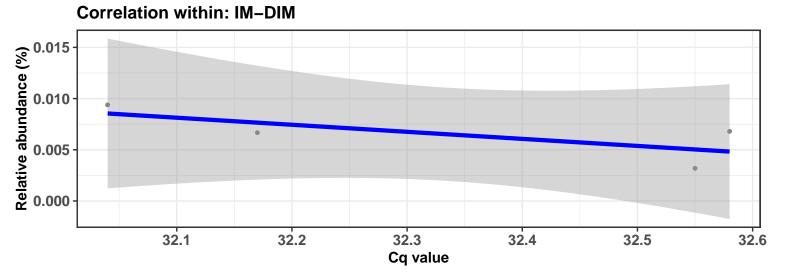


# Correlation within: REF-DIM 0.050 0.025 0.000 32.56 32.58 32.60 Cq value

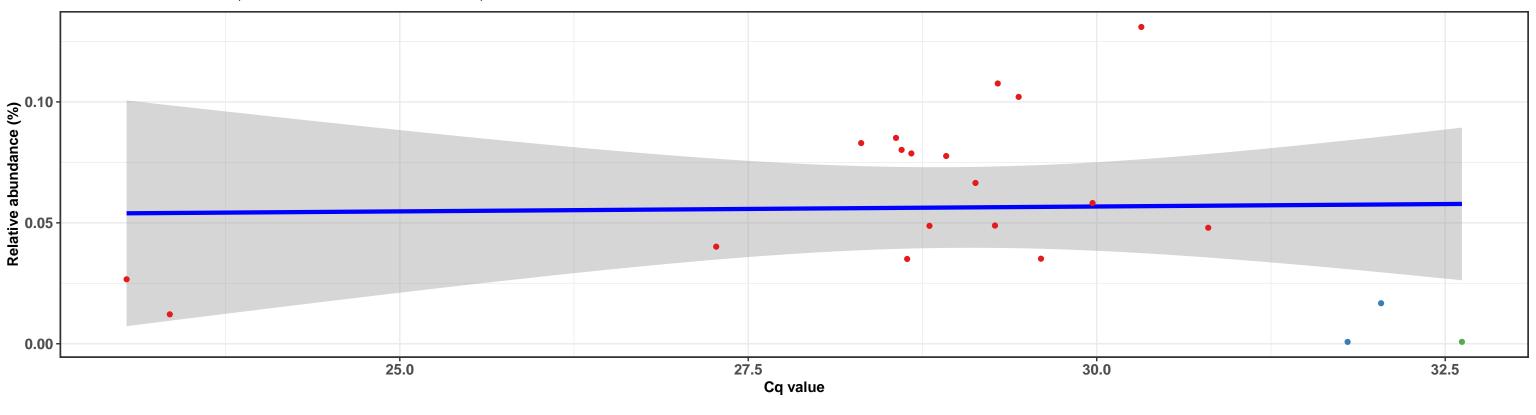
### Correlation within: IM-DIC

 $log_e(S) = 5.886$ , p = 0.005,  $\widehat{\rho}_{Spearman} = 0.628$ ,  $Cl_{95\%}$  [0.238, 1.084],  $n_{pairs} = 18$ 



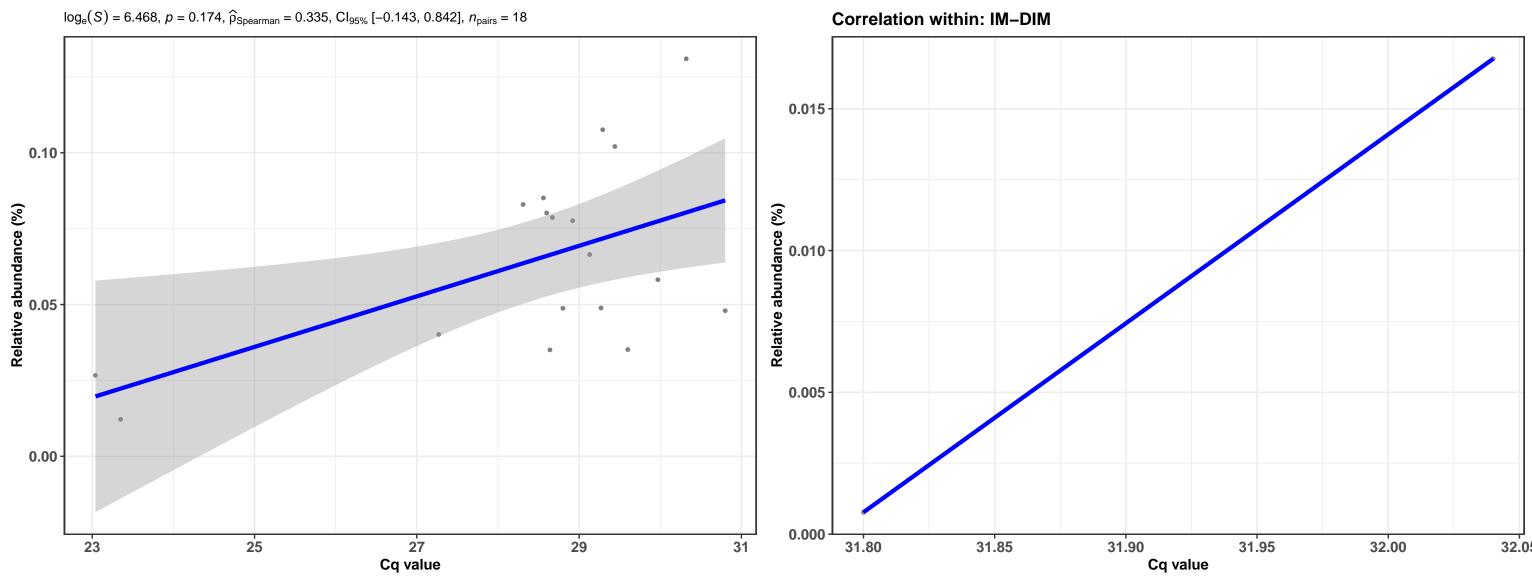


 $log_e(S) = 7.464$ , p = 0.567,  $\widehat{\rho}_{Spearman} = -0.132$ ,  $Cl_{95\%}$  [-0.715, 0.384],  $n_{pairs} = 21$ 



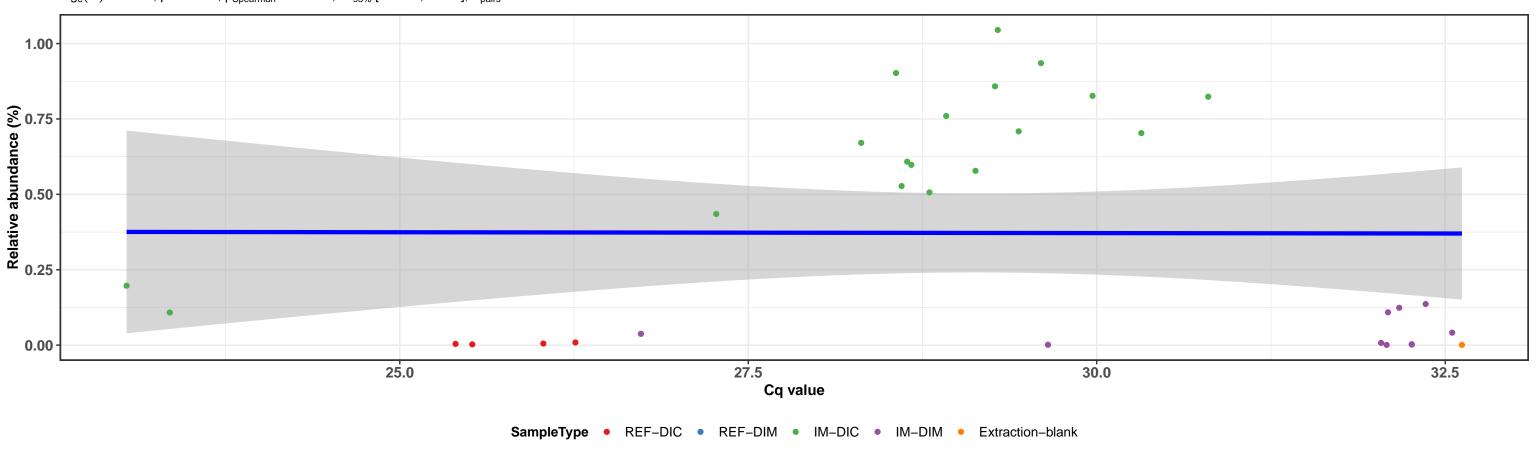


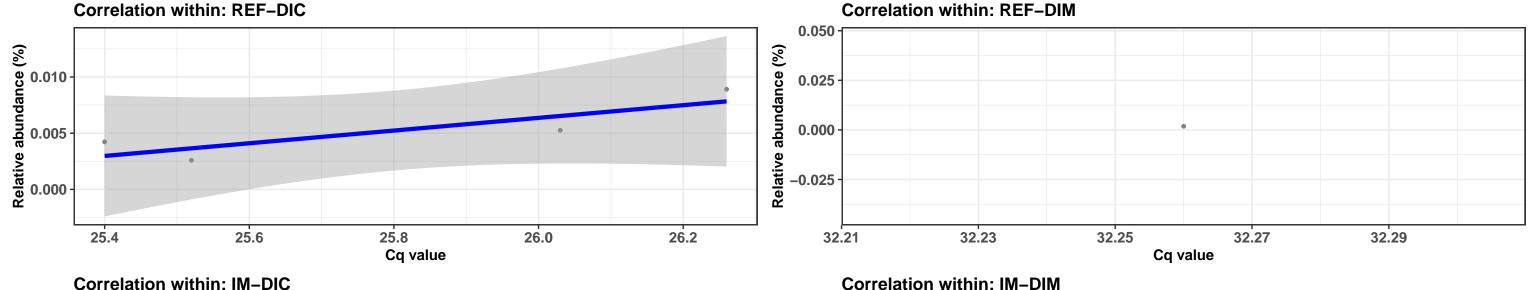
### Correlation within: IM-DIC

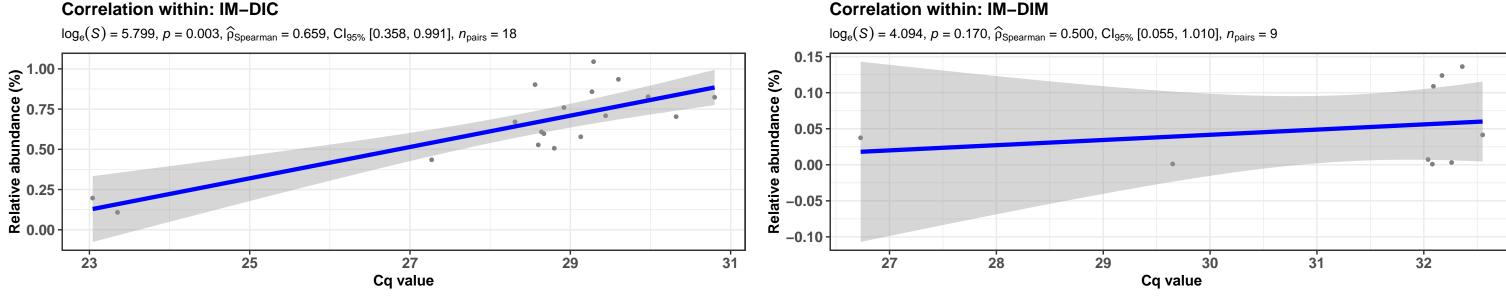


k\_Bacteria; p\_Firmicutes; c\_Bacilli; o\_Bacillales; f\_Bacillaceae; g\_Oceanobacillus; s\_Oceanobacillus caeni

 $log_e(S) = 8.807$ , p = 0.519,  $\hat{\rho}_{Spearman} = -0.116$ ,  $Cl_{95\%}$  [-0.549, 0.285],  $n_{pairs} = 33$ 

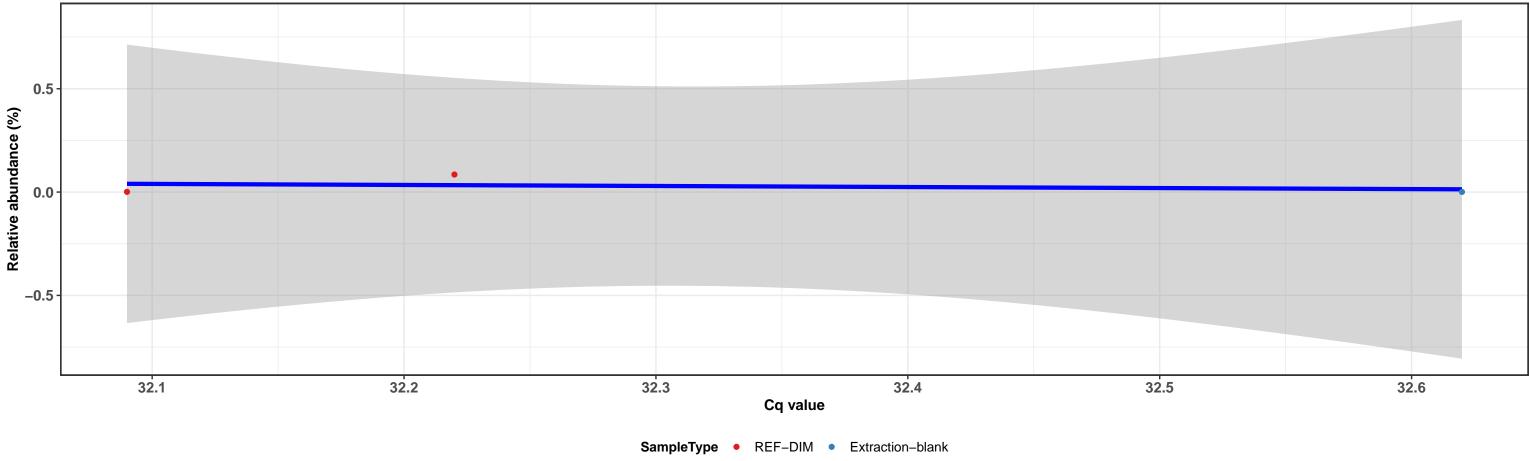




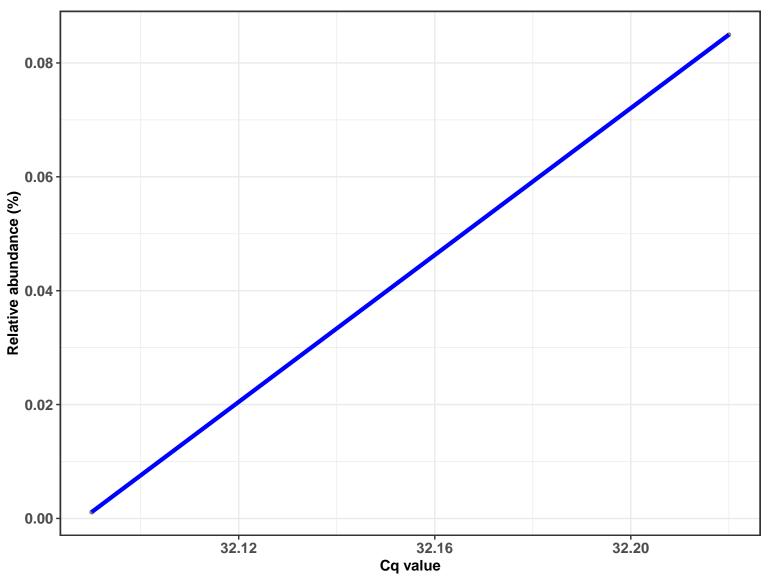


k\_\_Bacteria; p\_\_Actinobacteria; c\_\_Actinobacteria; o\_\_Propionibacteriales; f\_\_Propionibacteriaceae; g\_\_Cutibacterium; NA



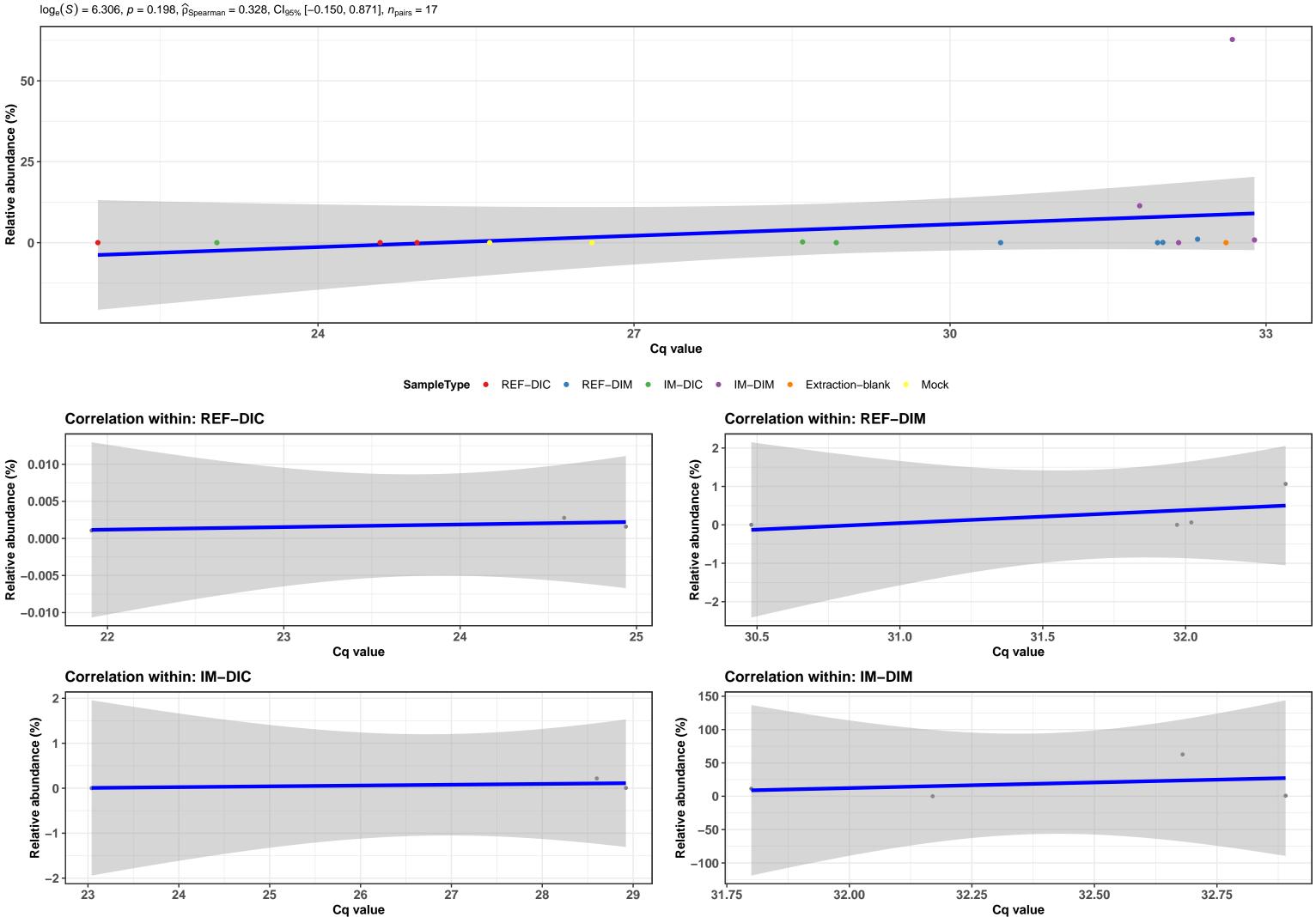






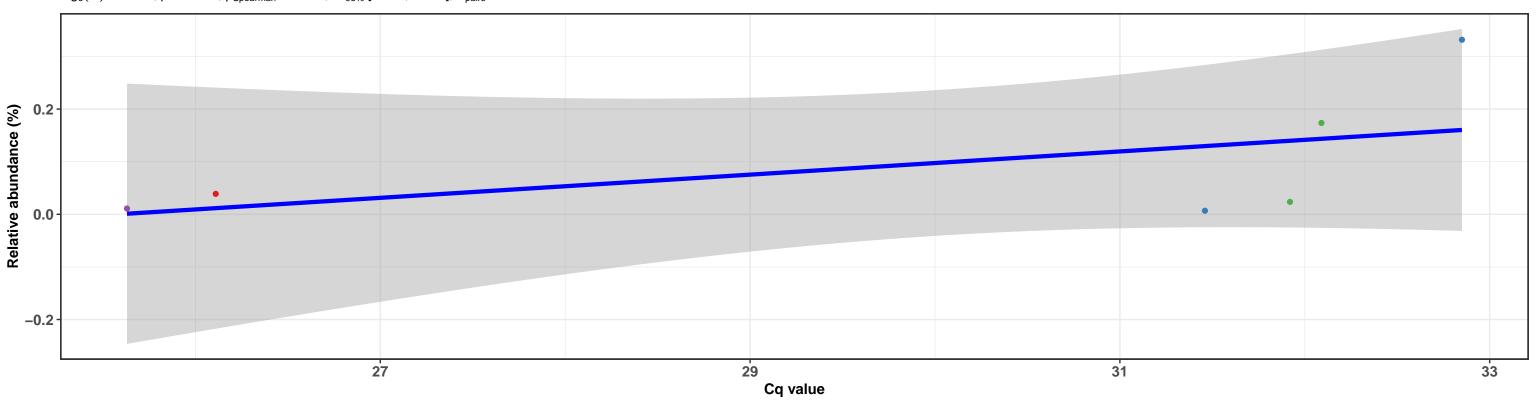
k\_\_Bacteria; p\_\_Tenericutes; c\_\_Mollicutes; o\_\_Mycoplasmatales; f\_\_Mycoplasmataceae; g\_\_Mycoplasma; s\_\_uncultured Mycoplasma sp.

Correlation with all samples

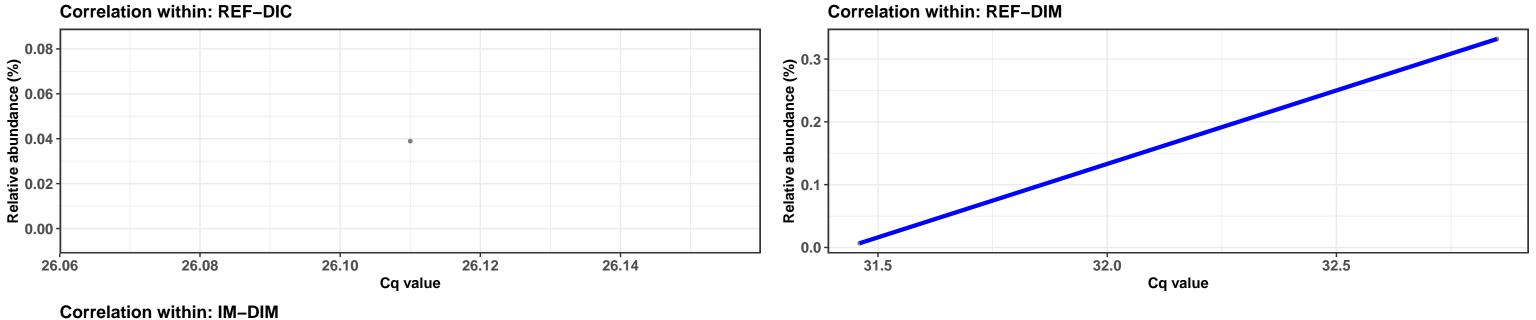


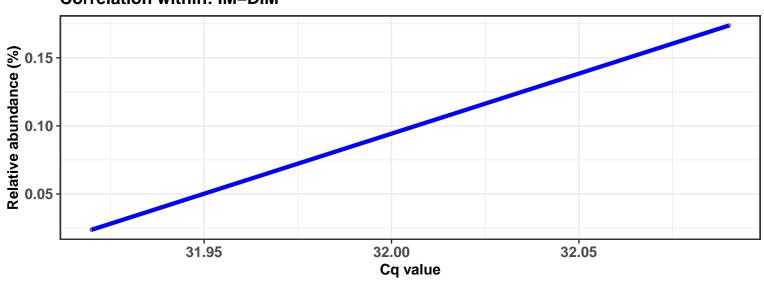
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Alphaproteobacteria; o\_\_Sphingomonadales; f\_\_Sphingomonadaceae; g\_\_Sphingomonas; NA

 $log_e(S) = 2.303$ , p = 0.111,  $\widehat{\rho}_{Spearman} = 0.714$ ,  $Cl_{95\%}$  [0.168, 1.194],  $n_{pairs} = 6$ 

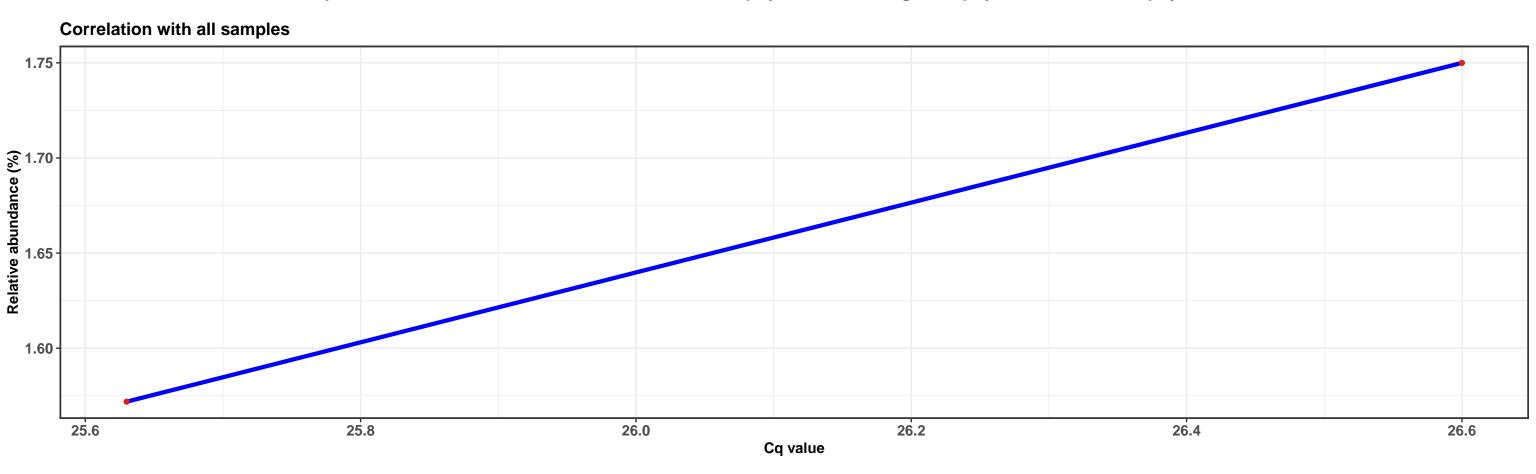






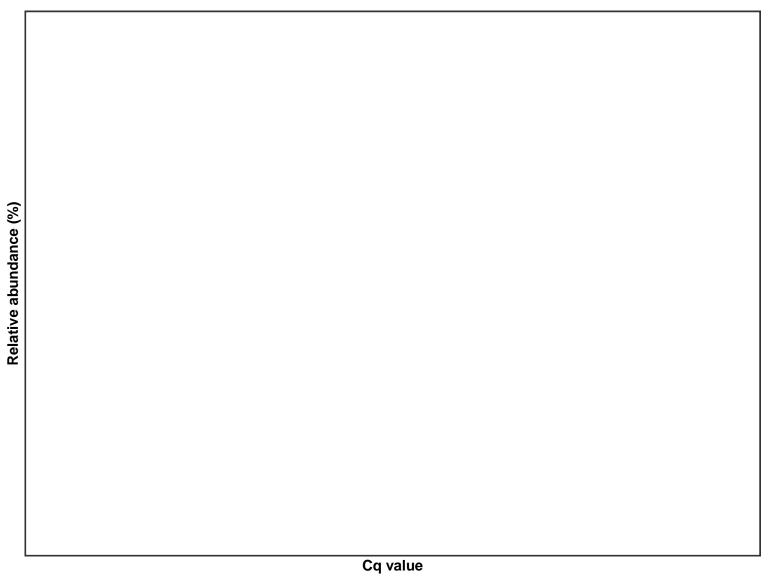


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Staphylococcaceae; g\_\_Staphylococcus; s\_\_Staphylococcus aureus



SampleType • Mock

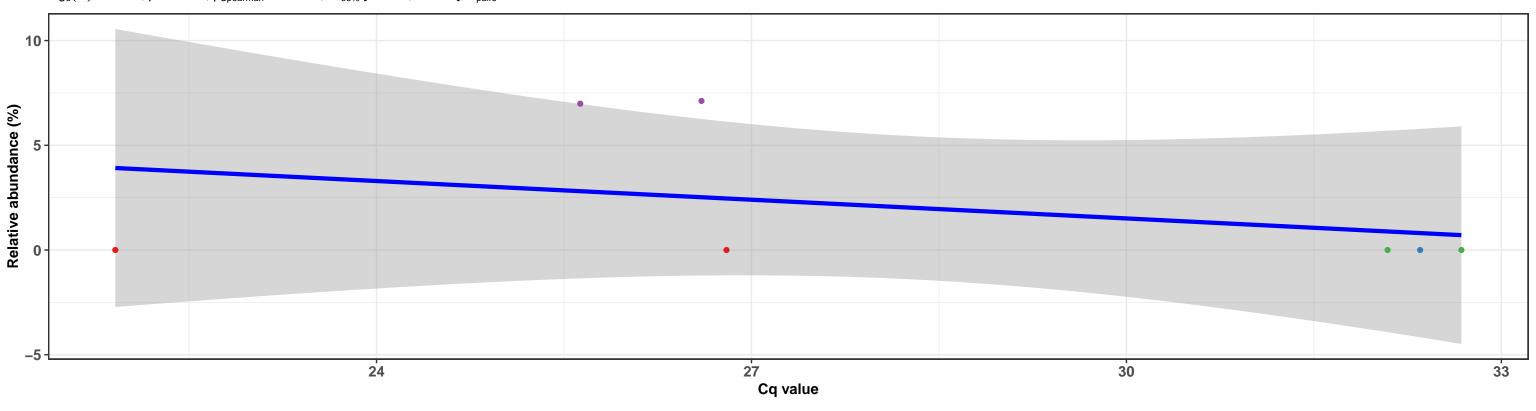
# **Correlation within:**



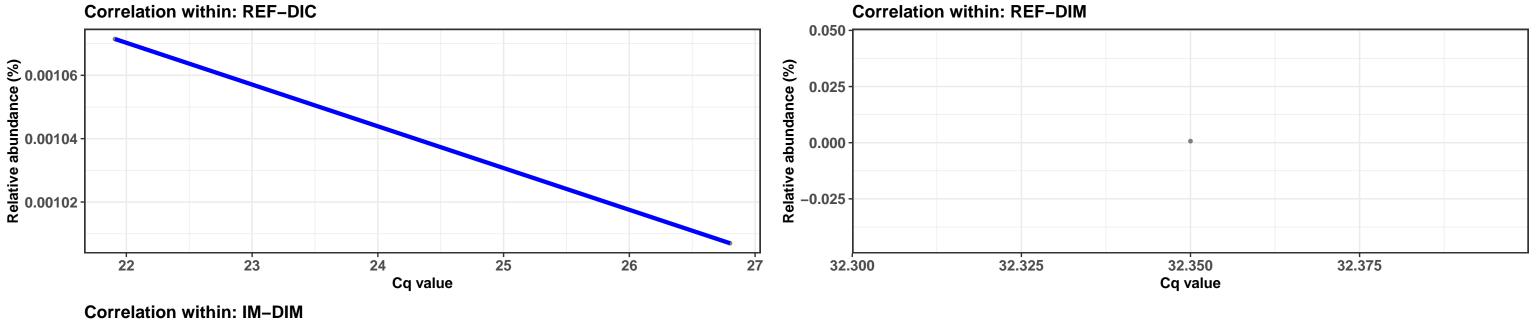
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Enterobacteriales; f\_\_Enterobacteriaceae; g\_\_Escherichia-Shigella; NA

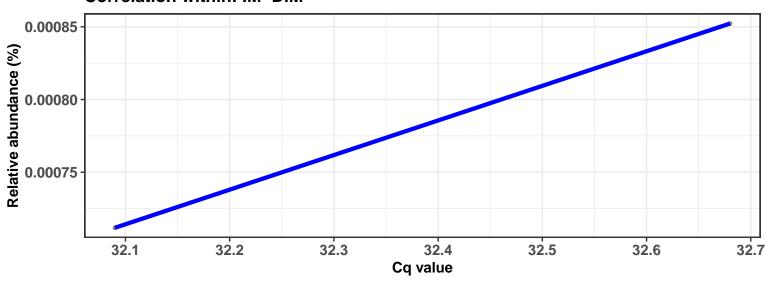


 $log_e(S) = 4.585$ , p = 0.052,  $\widehat{\rho}_{Spearman} = -0.750$ ,  $Cl_{95\%}$  [-1.442, -0.290],  $n_{pairs} = 7$ 









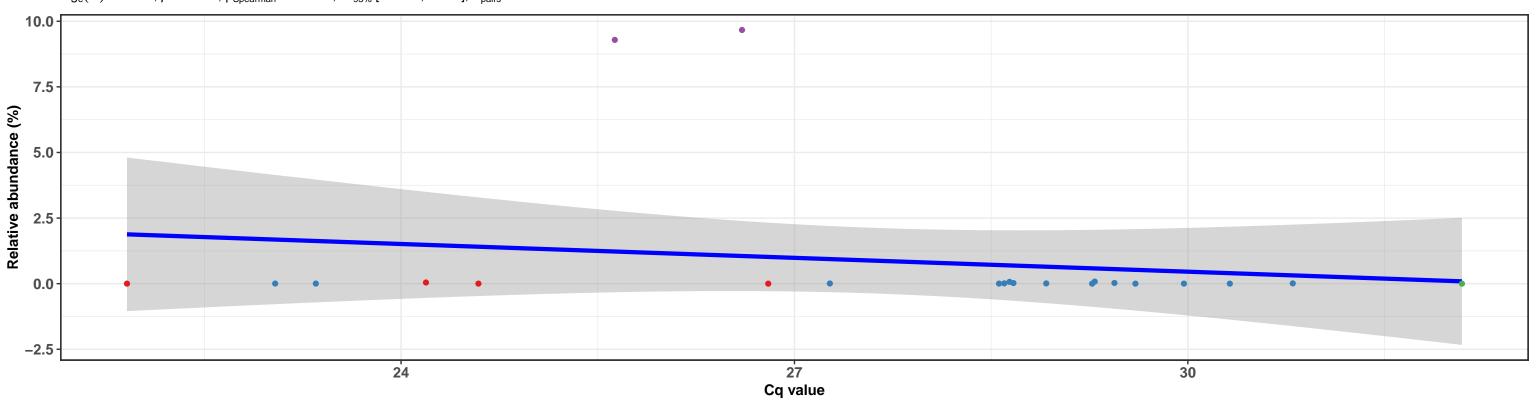
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Enterobacteriales; f\_\_Enterobacteriaceae; g\_\_Escherichia-Shigella; NA



22

23

 $log_e(S) = 7.672$ , p = 0.342,  $\widehat{\rho}_{Spearman} = -0.213$ ,  $Cl_{95\%}$  [-0.656, 0.224],  $n_{pairs} = 22$ 





27

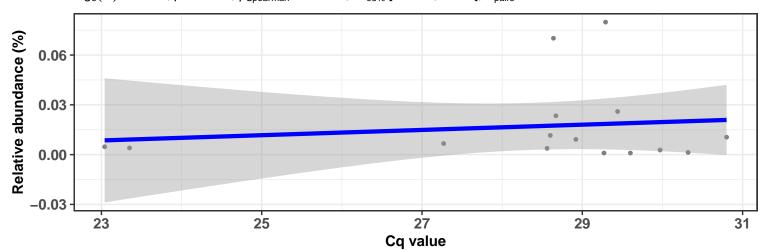
26

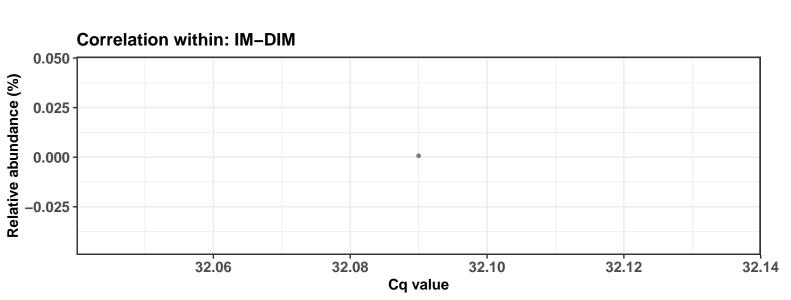
# Correlation within: REF-DIC (%) 0.00 0.00 We particle aprile aprile

25

### Correlation within: IM-DIC

 $log_e(S) = 6.446$ , p = 0.657,  $\hat{\rho}_{Spearman} = -0.125$ ,  $Cl_{95\%}$  [-0.592, 0.321],  $n_{pairs} = 15$ 



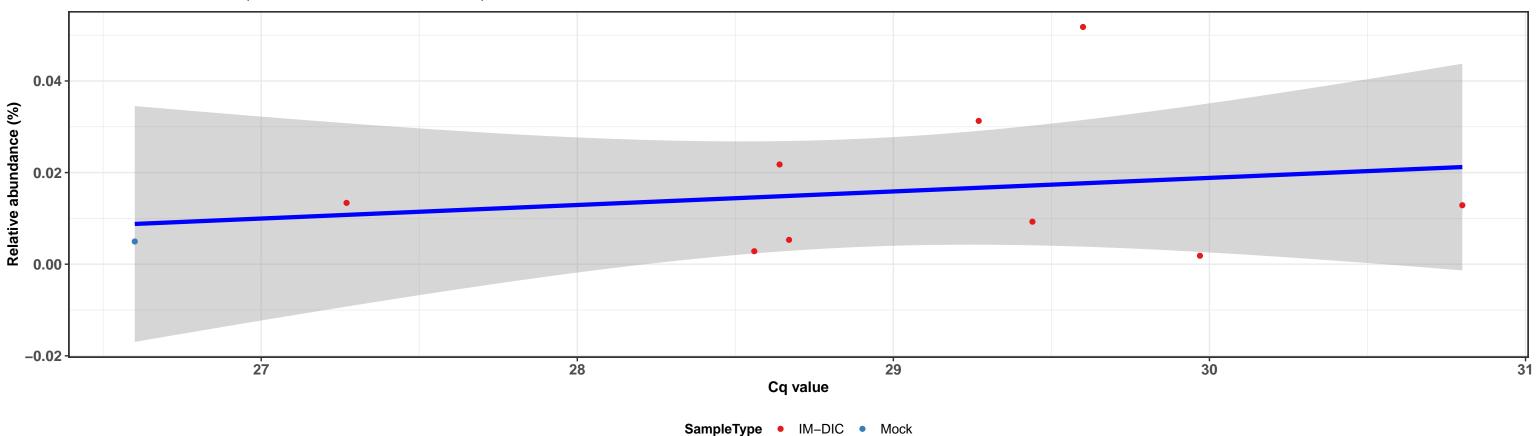


24

Cq value

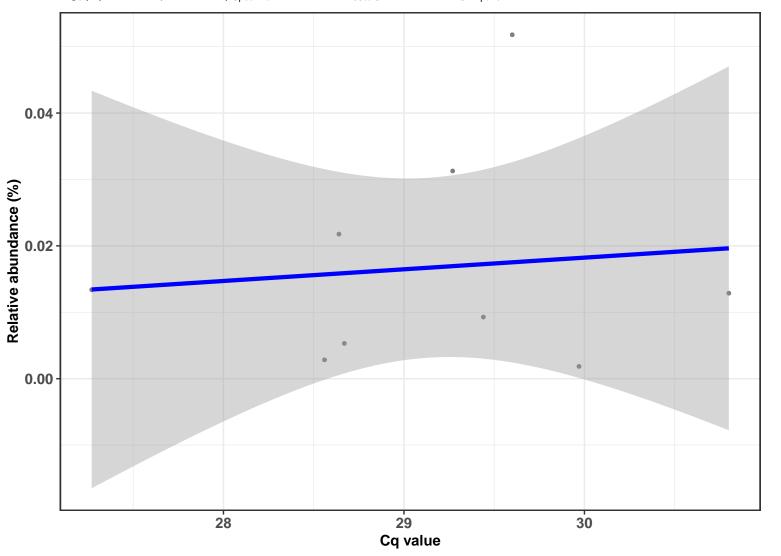
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Enterobacteriales; f\_\_Enterobacteriaceae; g\_\_Escherichia-Shigella; NA

 $log_e(S) = 4.970, p = 0.726, \hat{\rho}_{Spearman} = 0.127, Cl_{95\%} [-0.563, 0.863], n_{pairs} = 10$ 

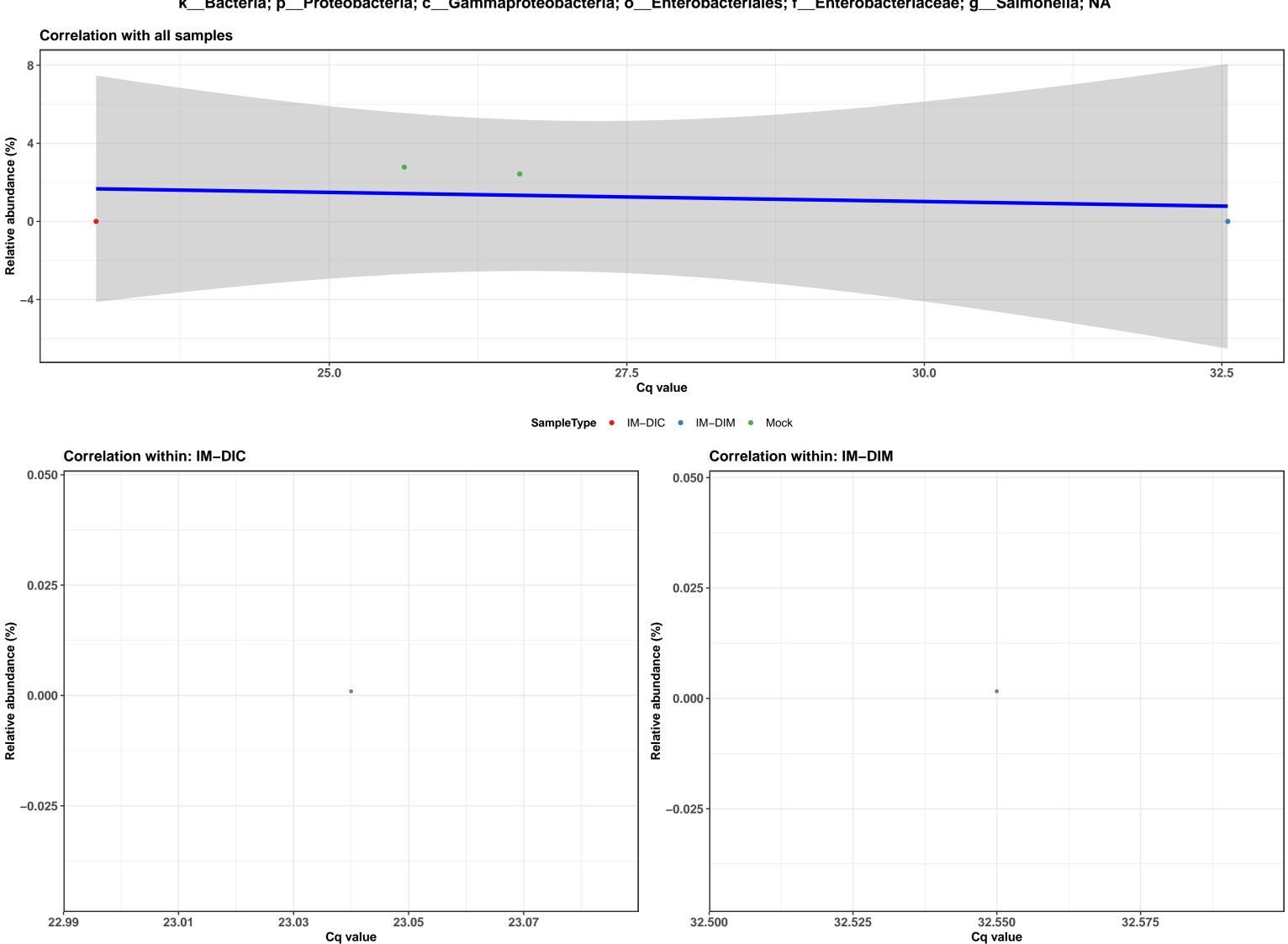


### Correlation within: IM-DIC

 $log_e(S) = 4.820, p = 0.932, \hat{\rho}_{Spearman} = -0.033, Cl_{95\%} [-0.803, 0.812], n_{pairs} = 9$ 



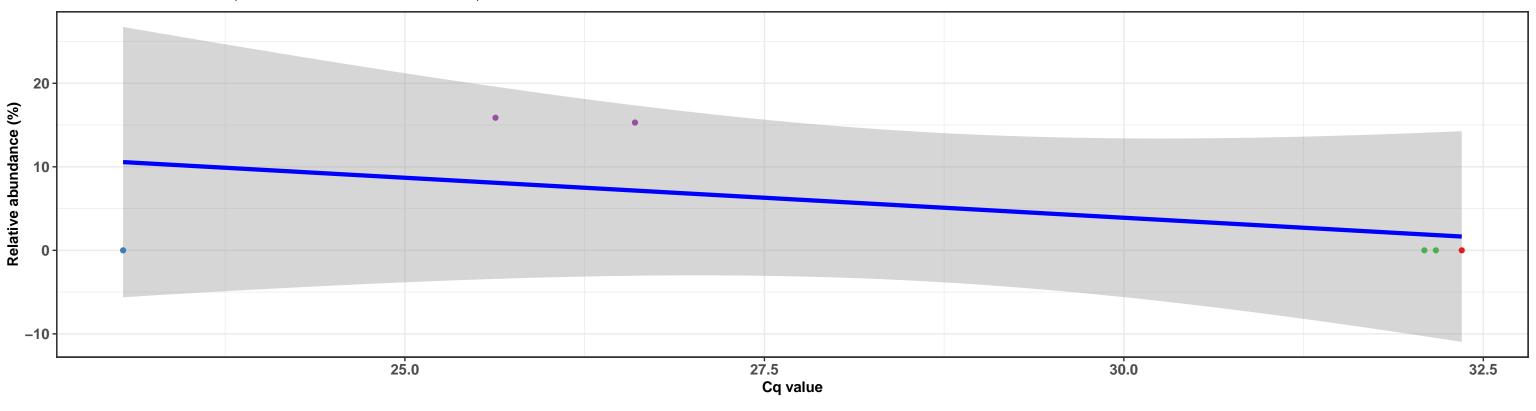
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Enterobacteriales; f\_\_Enterobacteriaceae; g\_\_Salmonella; NA



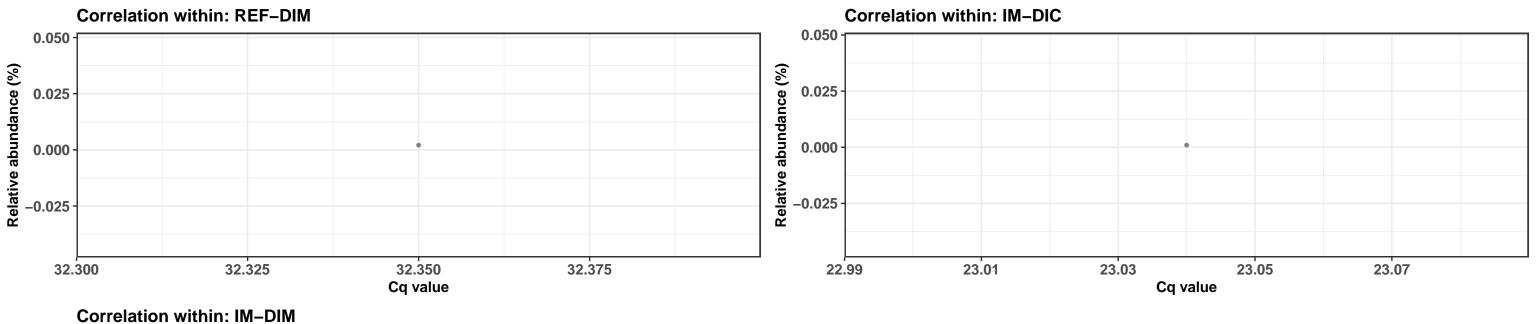
k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Enterobacteriales; f\_\_Enterobacteriaceae; g\_\_Salmonella; NA

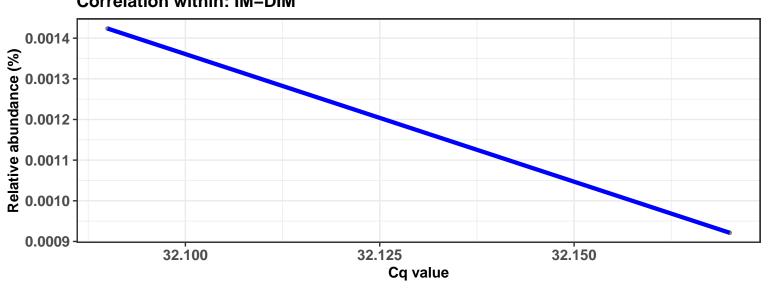


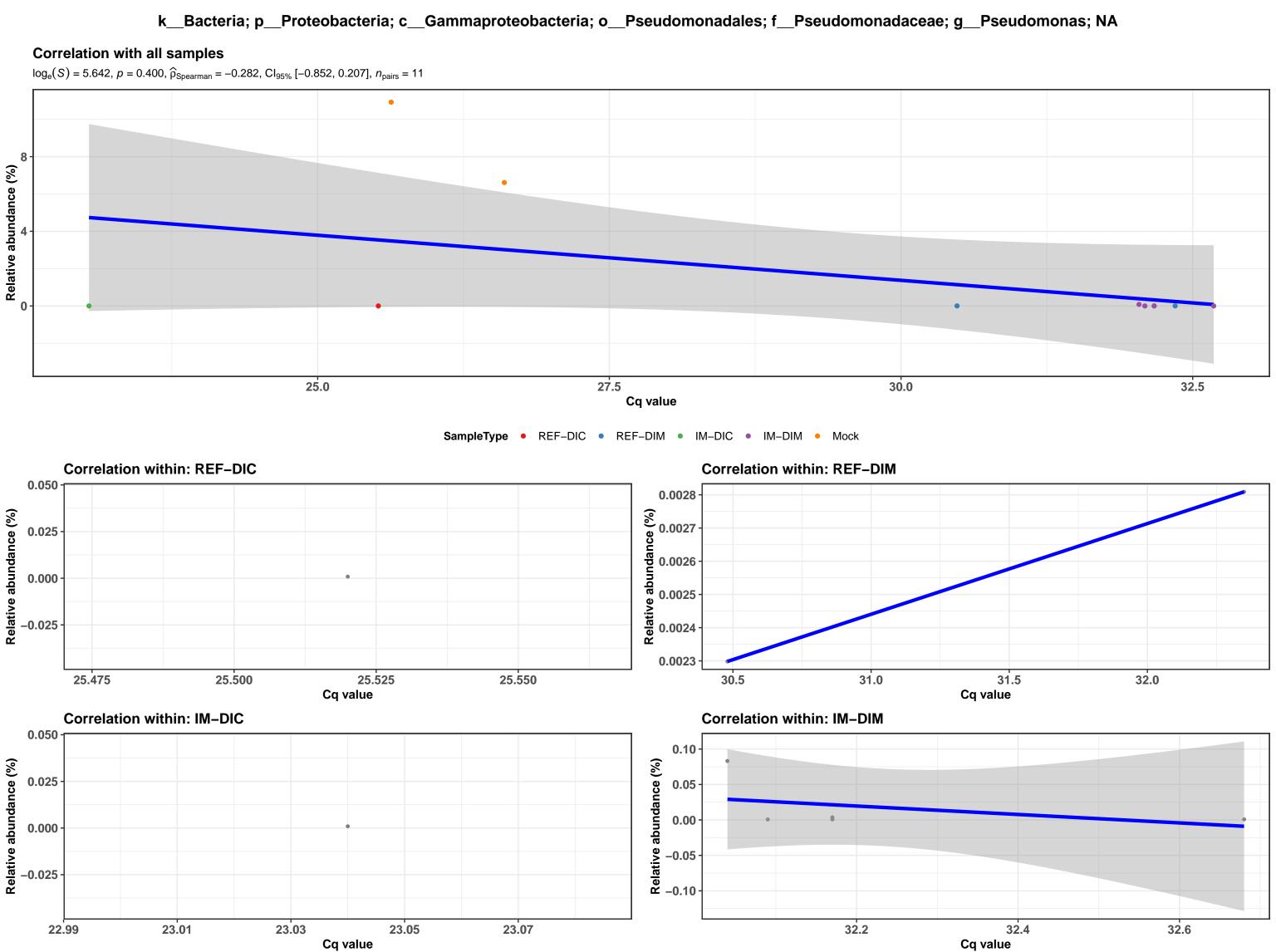
 $log_e(S) = 3.738$ , p = 0.704,  $\widehat{\rho}_{Spearman} = -0.200$ ,  $Cl_{95\%}$  [-1.154, 0.872],  $n_{pairs} = 6$ 



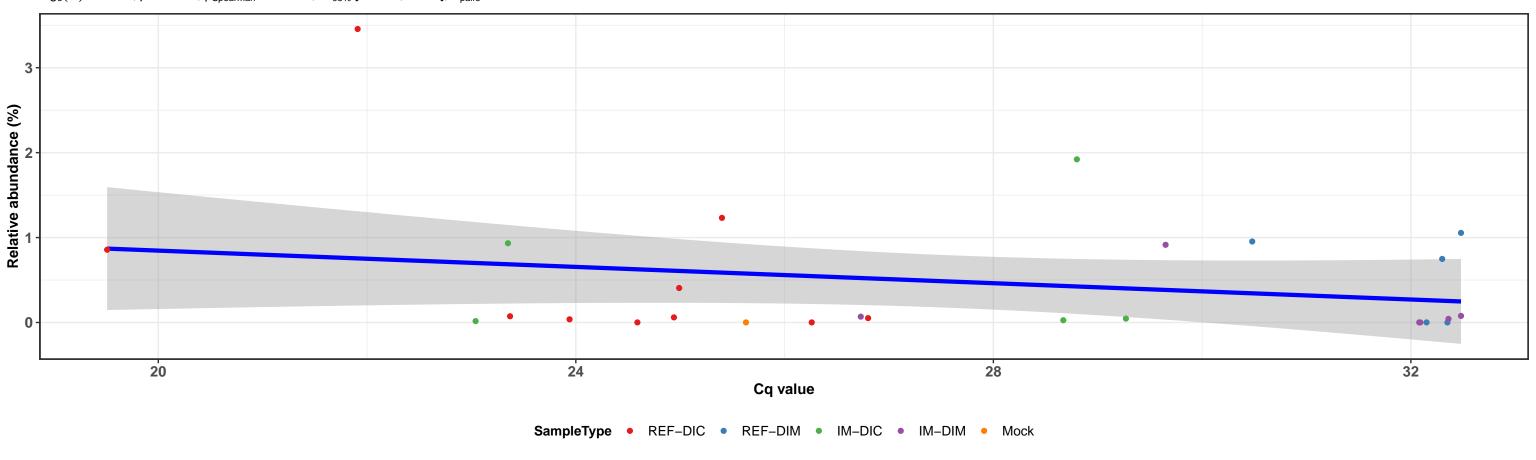




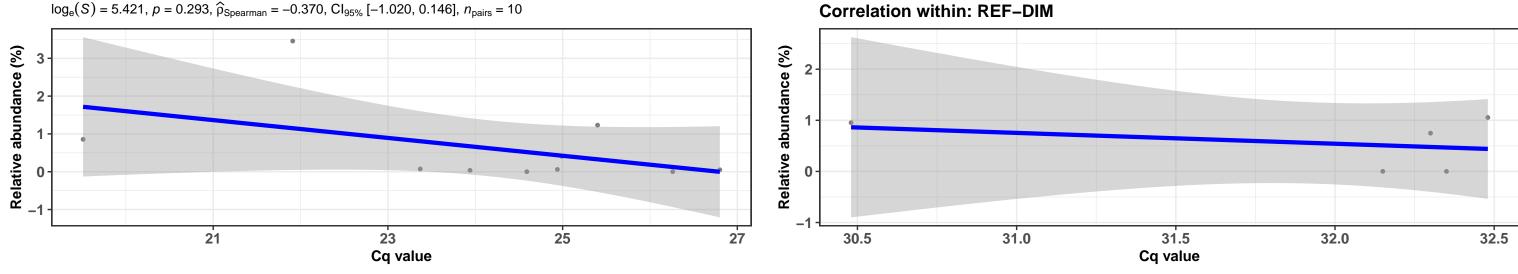


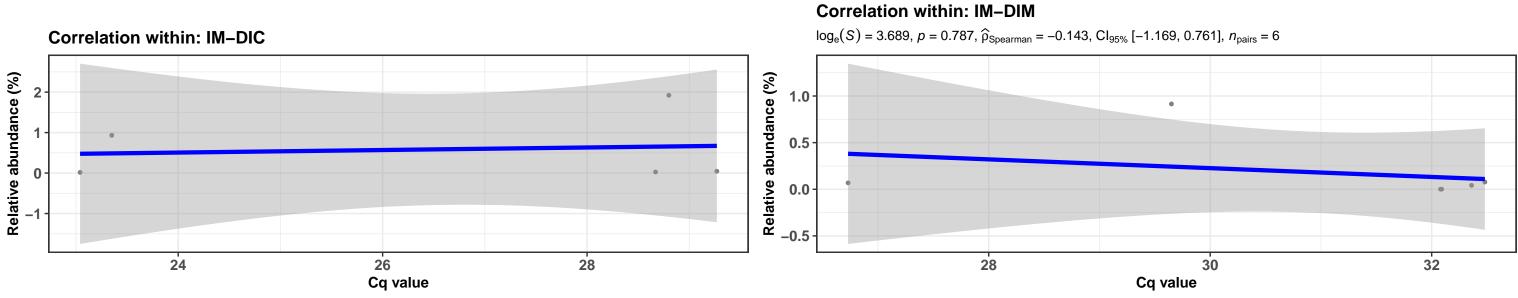


 $\log_{e}(S) = 8.249, p = 0.405, \hat{\rho}_{Spearman} = -0.167, Cl_{95\%} [-0.561, 0.157], n_{pairs} = 27$ 

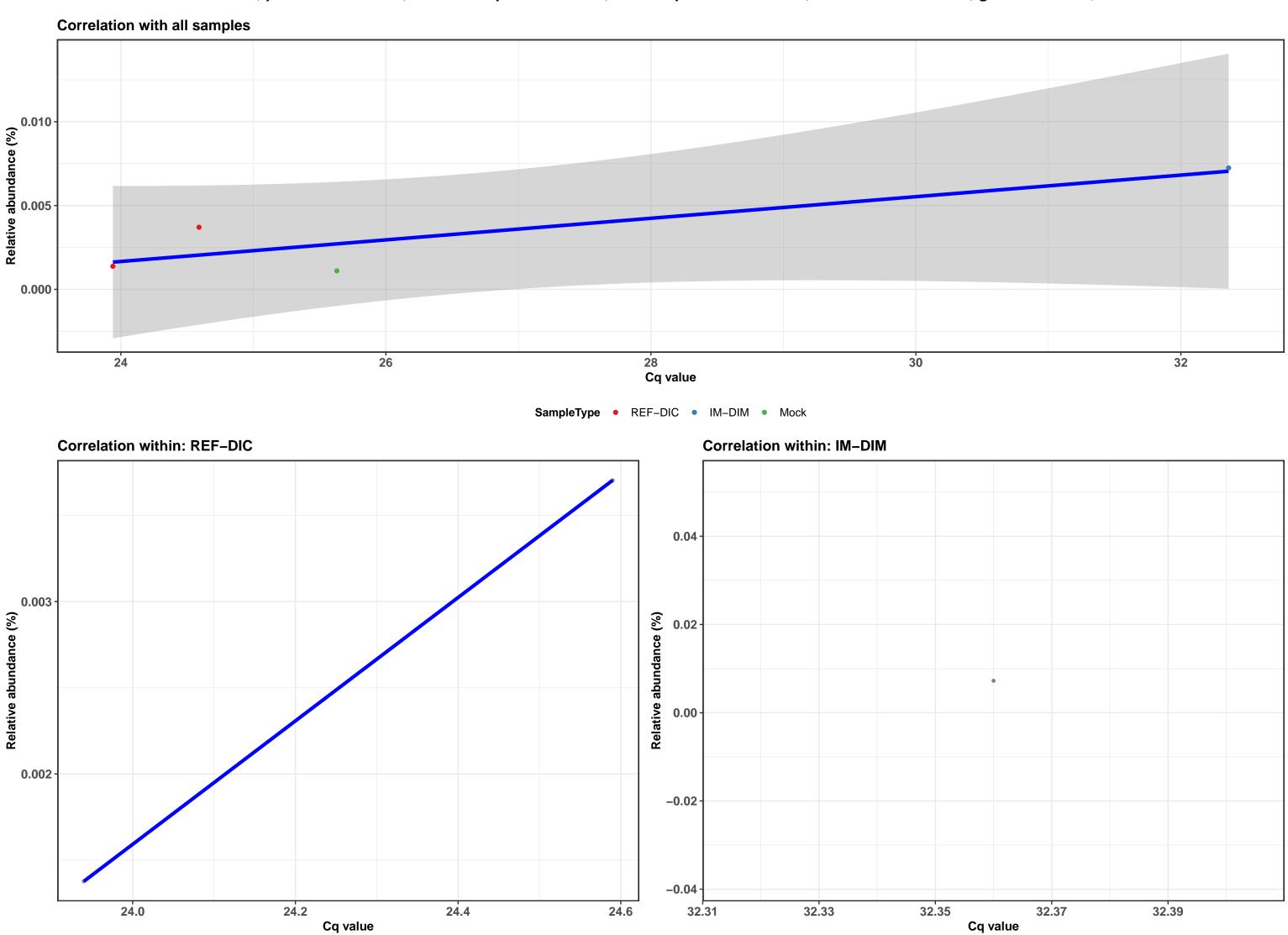


### Correlation within: REF-DIC

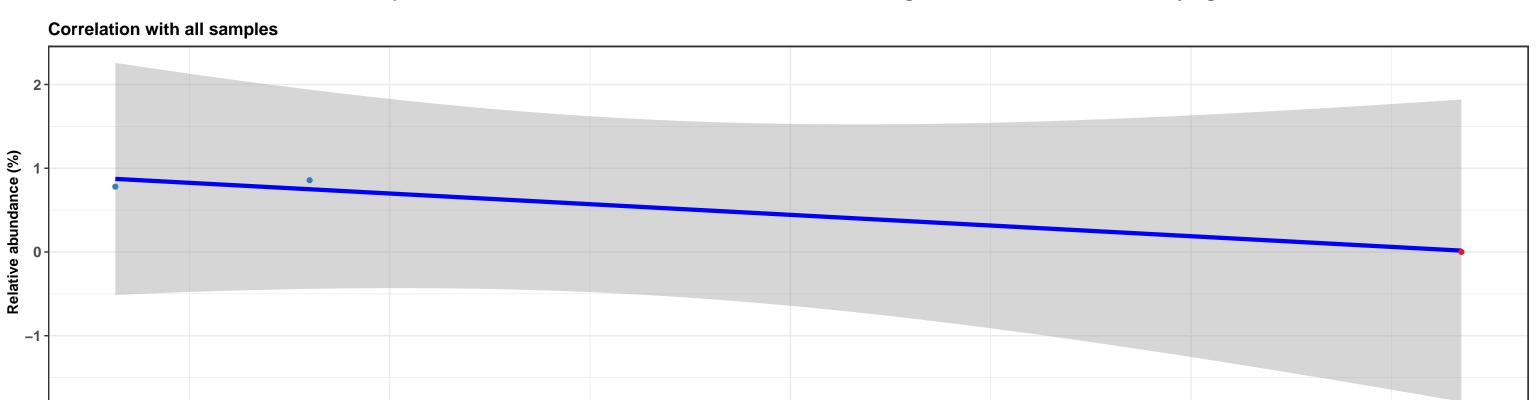




k\_\_Bacteria; p\_\_Proteobacteria; c\_\_Gammaproteobacteria; o\_\_Betaproteobacteriales; f\_\_Burkholderiaceae; g\_\_Acidovorax; NA



k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Listeriaceae; g\_\_Listeria; s\_\_Listeria monocytogenes

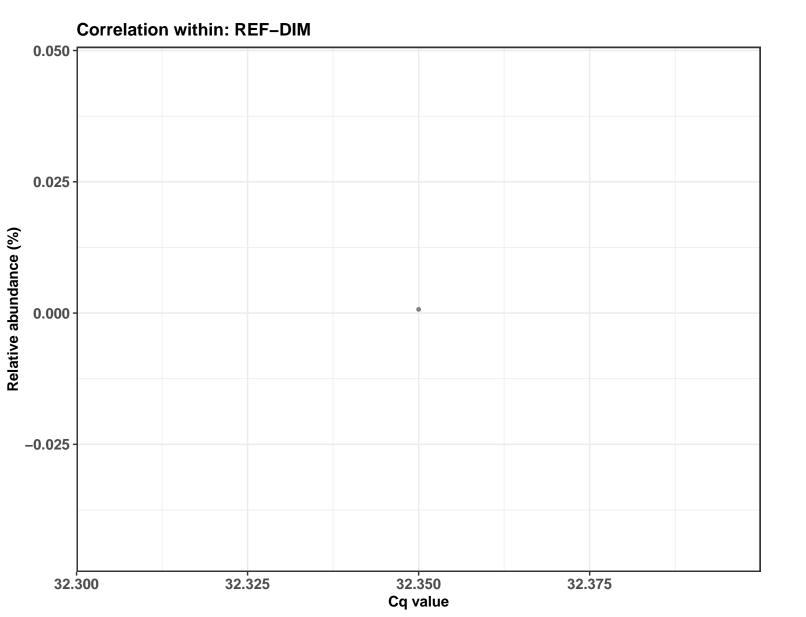




29

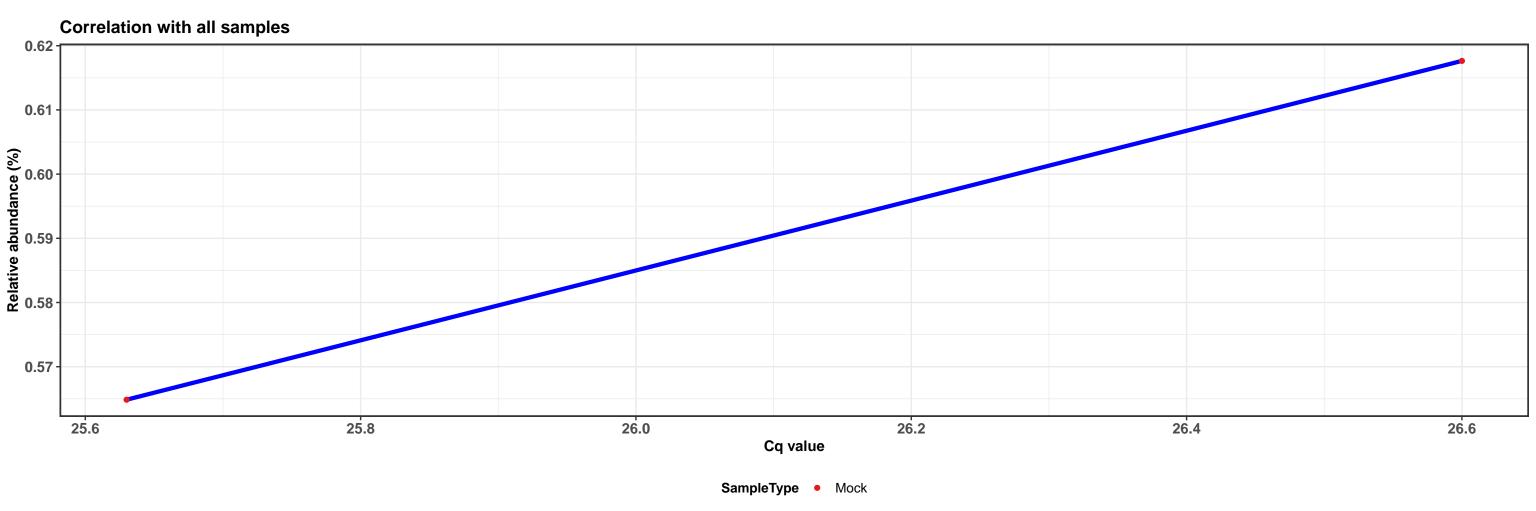
Cq value

31

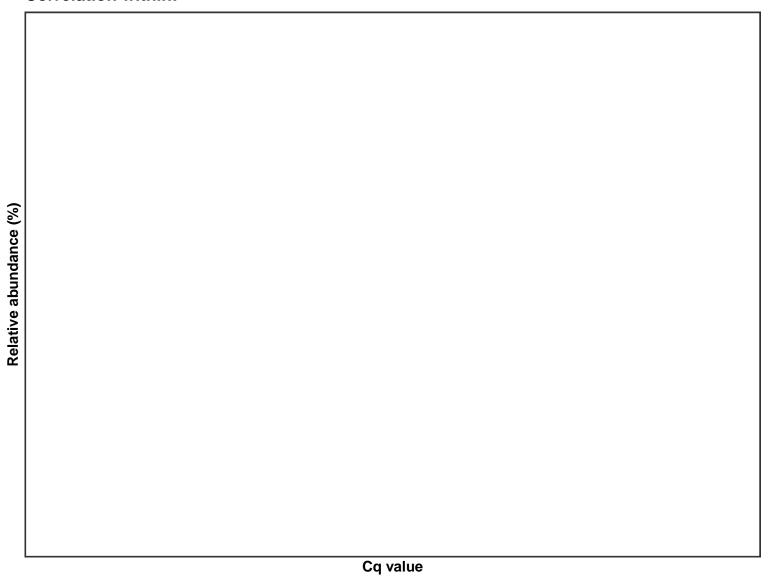


27

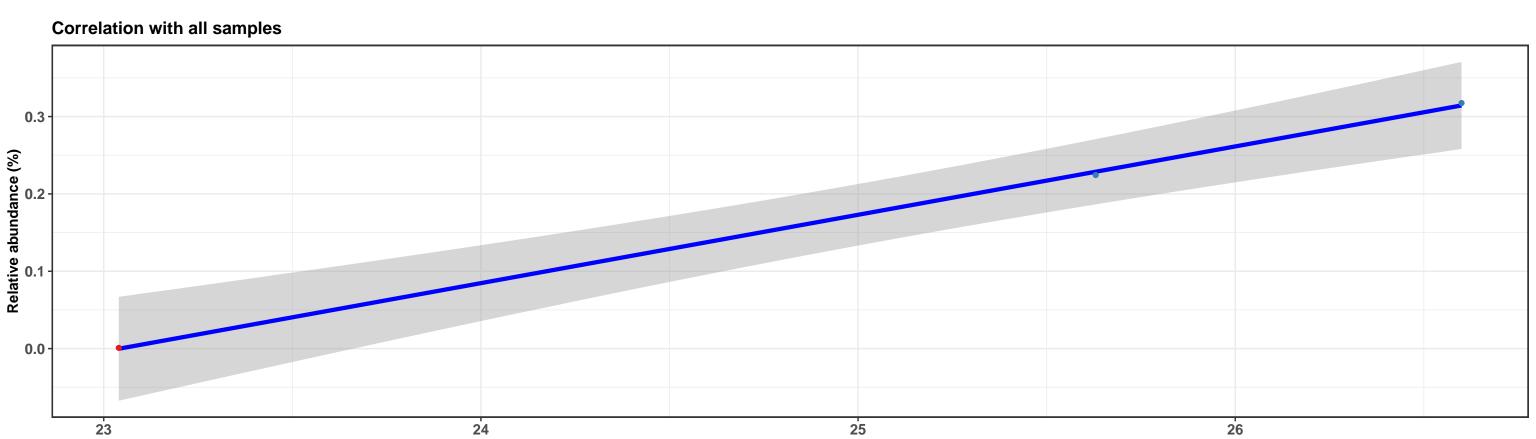
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Listeriaceae; g\_\_Listeria; s\_\_Listeria monocytogenes



# **Correlation within:**

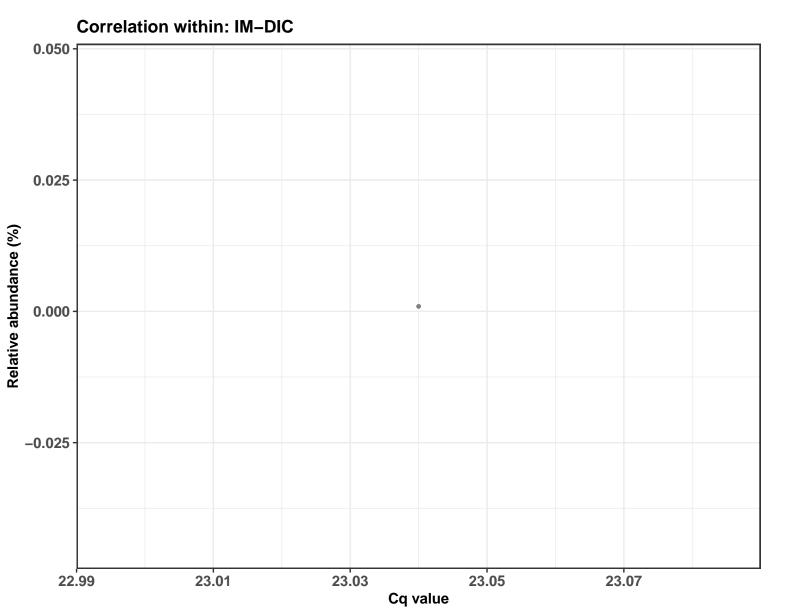


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Listeriaceae; g\_\_Listeria; s\_\_Listeria monocytogenes





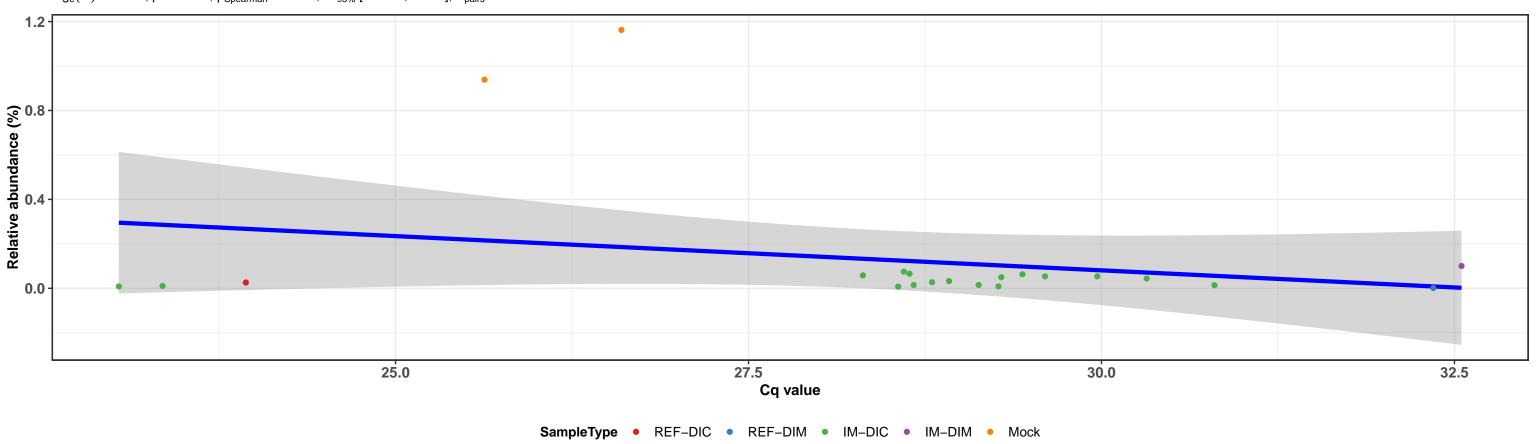
Cq value

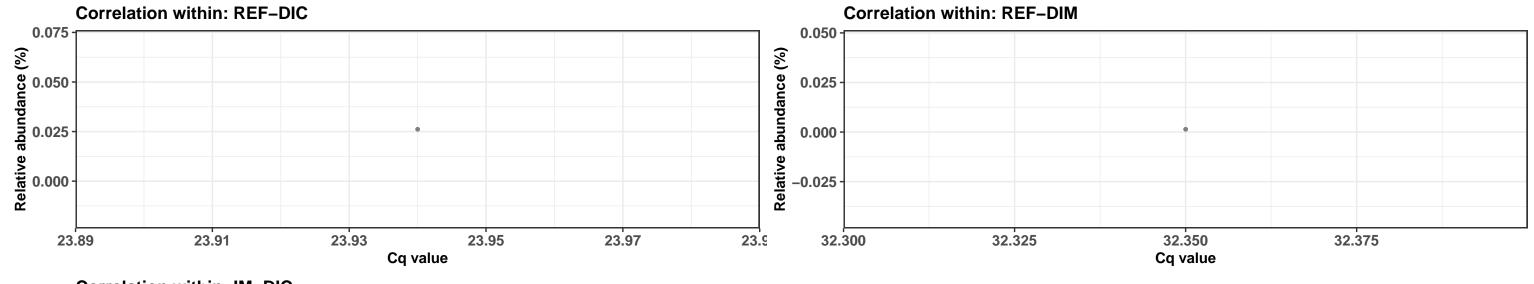


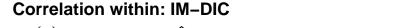
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Enterococcaceae; g\_\_Enterococcus; s\_\_Enterococcus faecalis

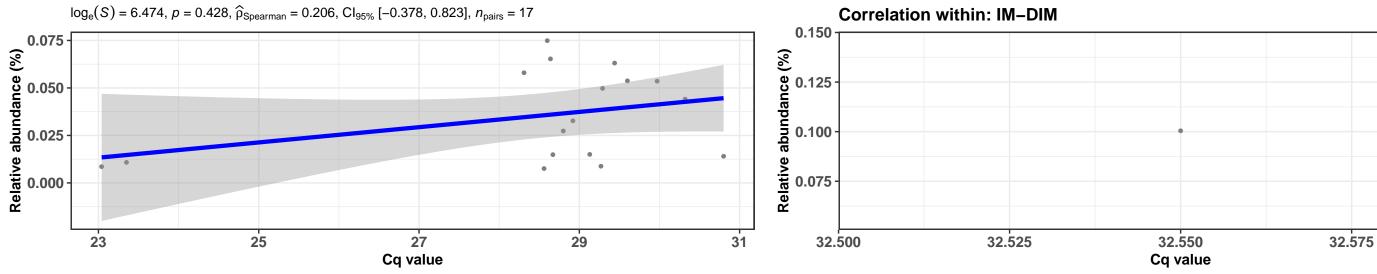


 $log_e(S) = 7.475, p = 0.986, \hat{p}_{Spearman} = 0.004, Cl_{95\%} [-0.471, 0.511], n_{pairs} = 22$ 

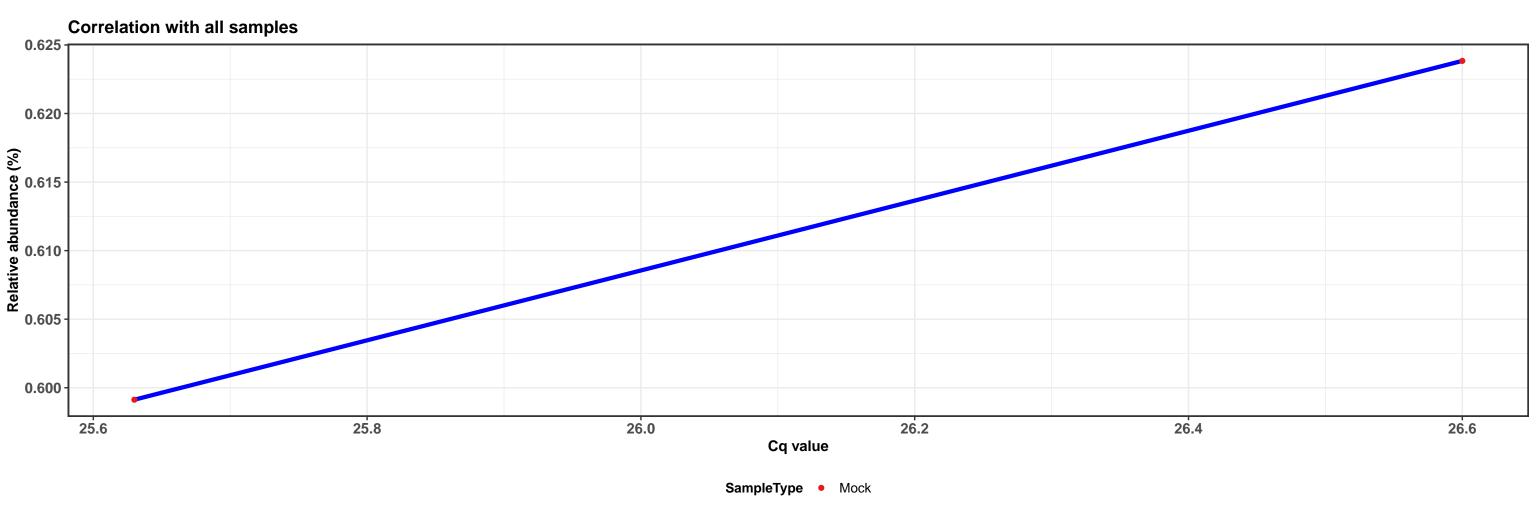




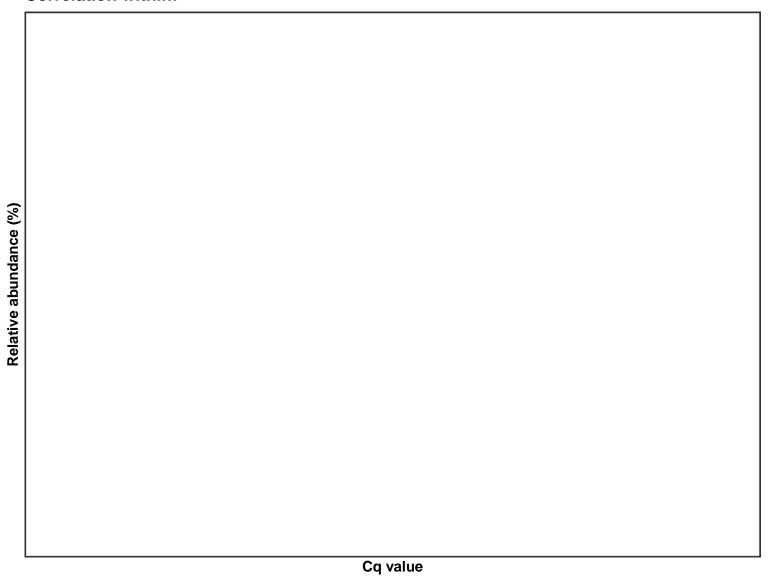




k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Enterococcaceae; g\_\_Enterococcus; s\_\_Enterococcus faecalis

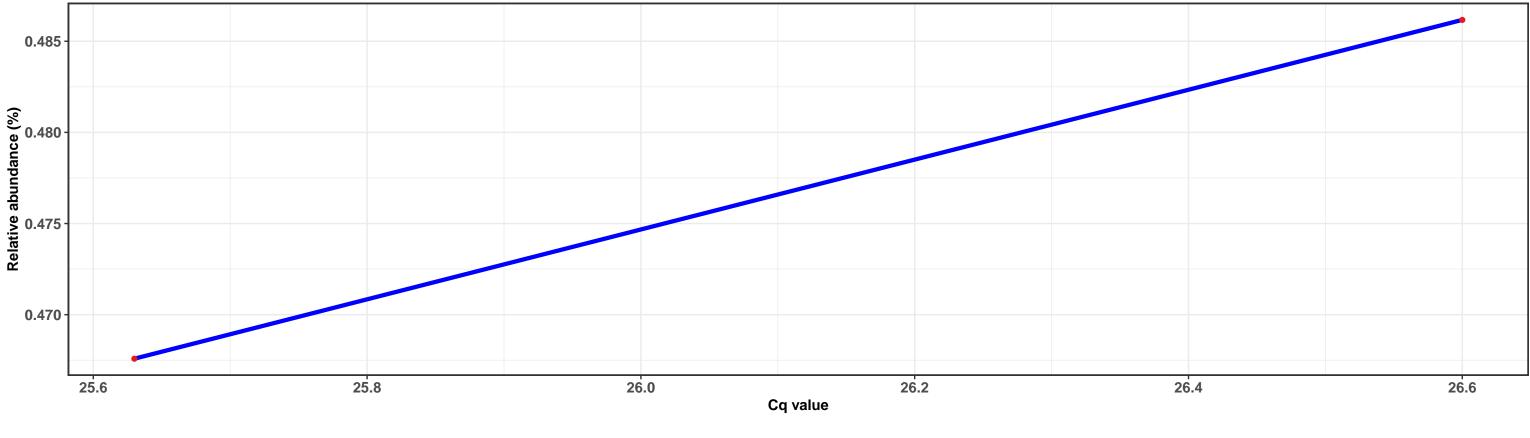


# **Correlation within:**



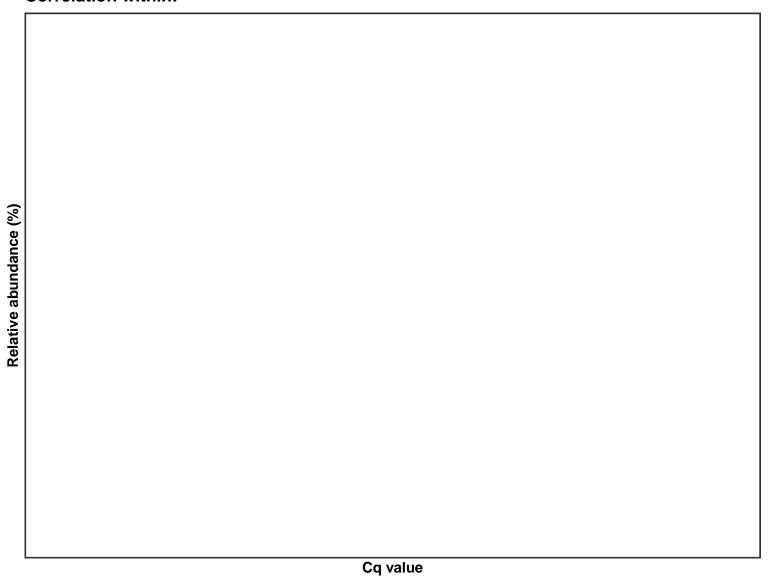
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Enterococcaceae; g\_\_Enterococcus; s\_\_Enterococcus faecalis



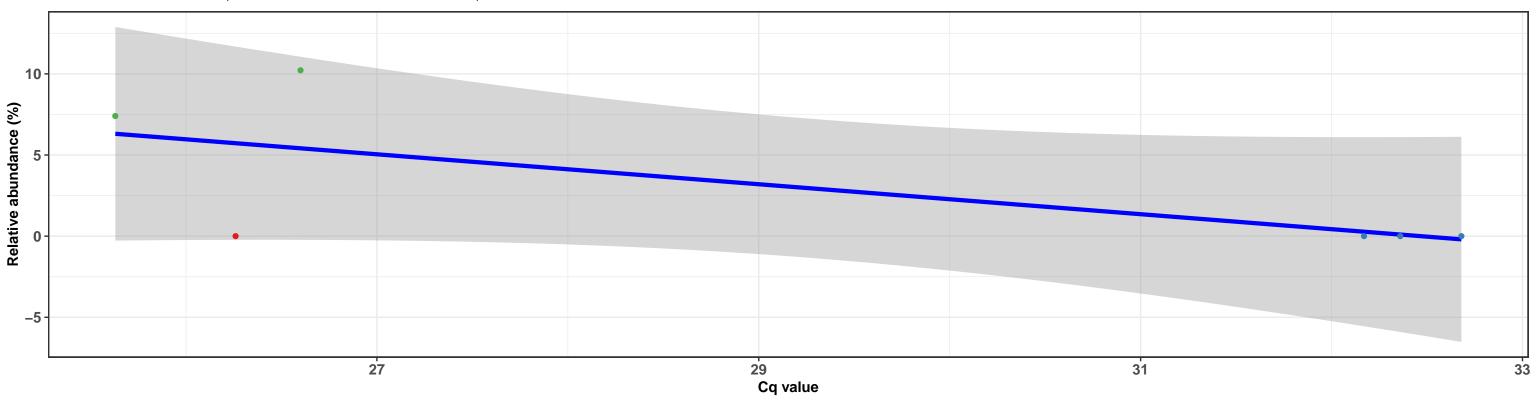


SampleType • Mock

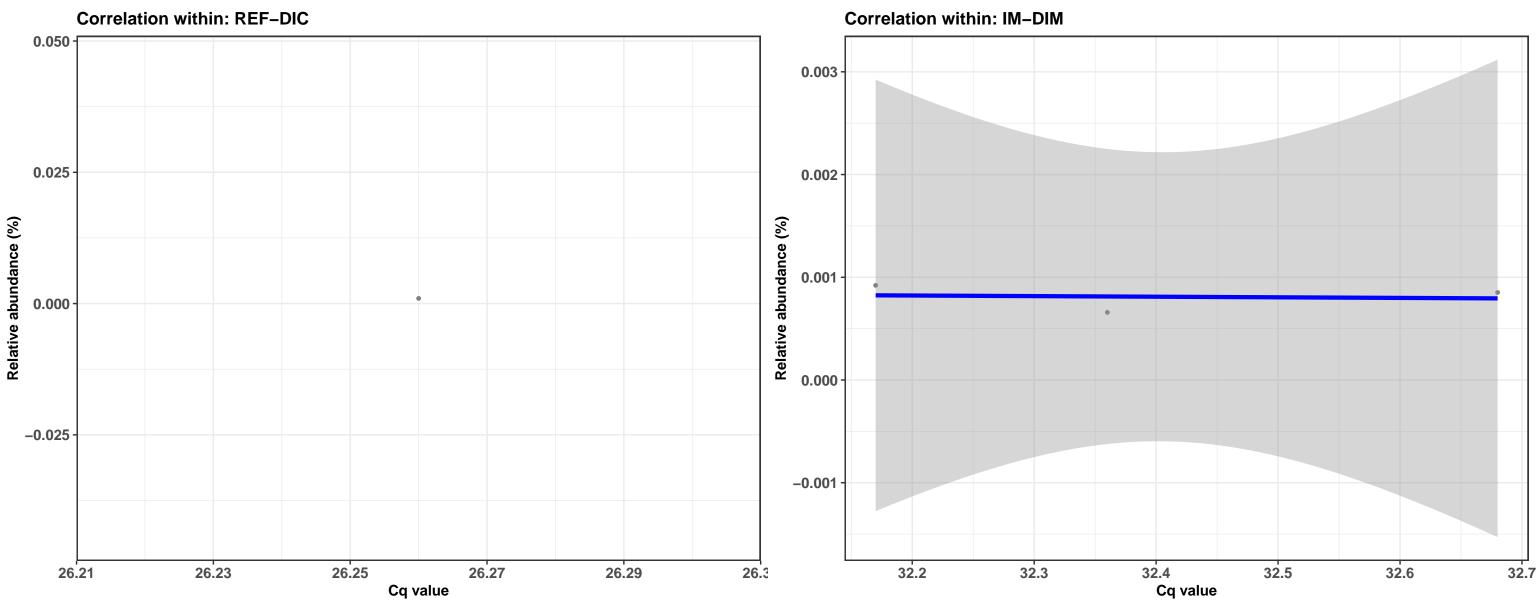
# **Correlation within:**



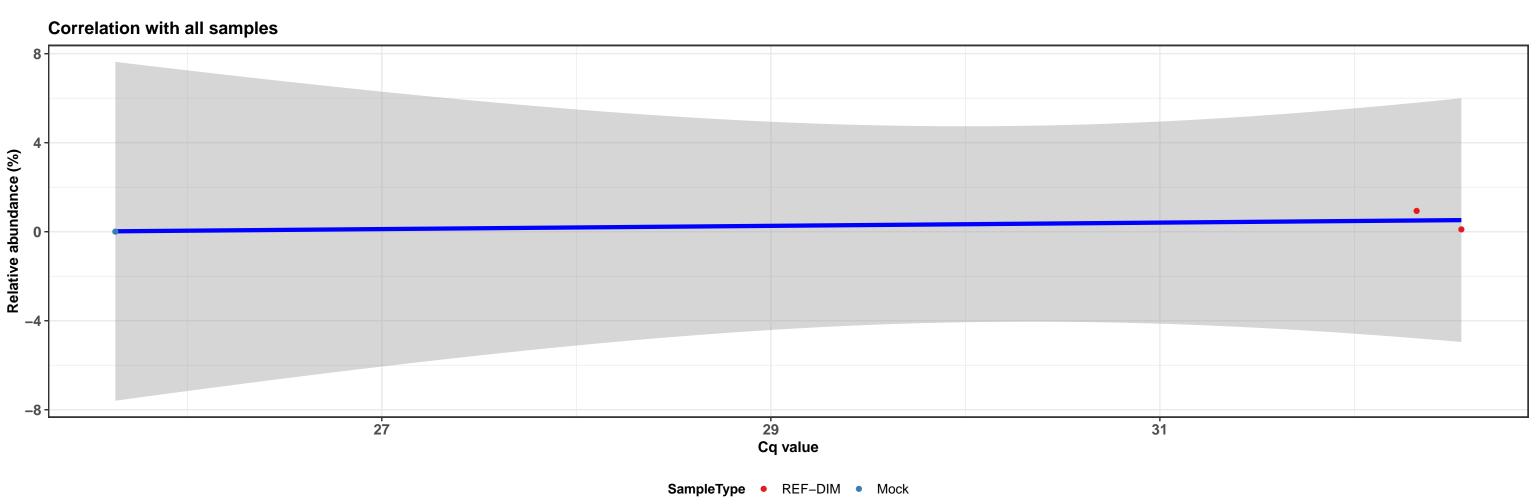
 $log_e(S) = 4.127, p = 0.072, \widehat{\rho}_{Spearman} = -0.771, Cl_{95\%} [-1.427, -0.260], n_{pairs} = 6$ 

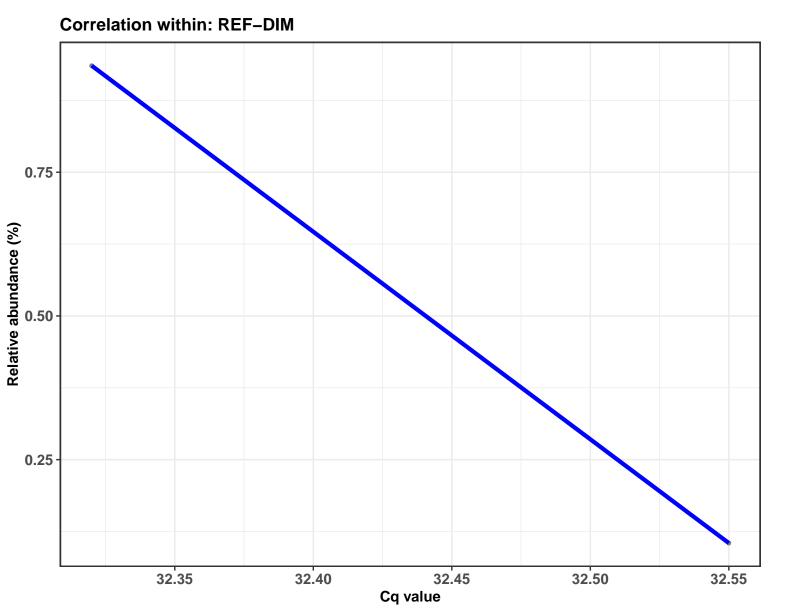




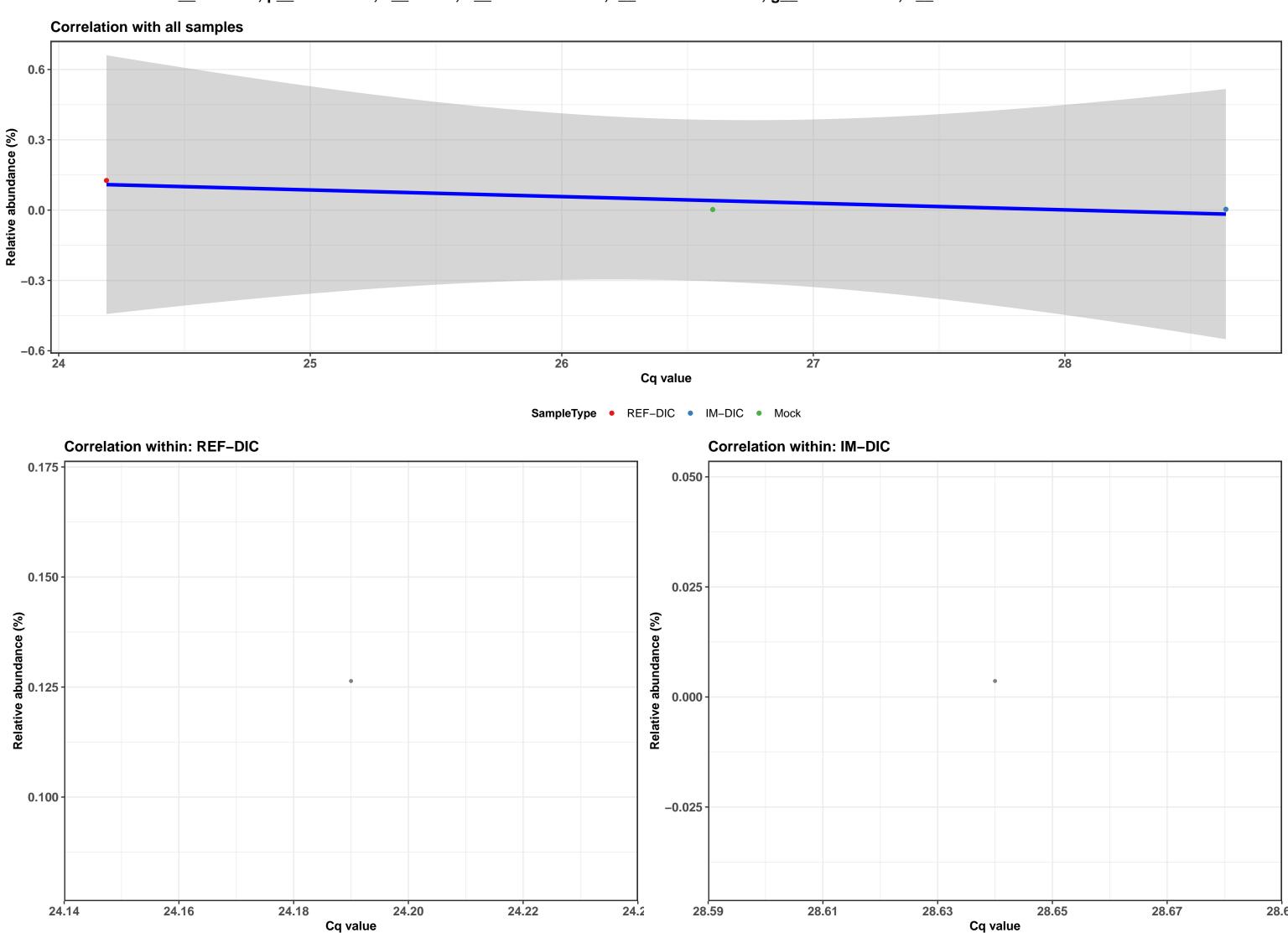


k\_\_Bacteria; p\_\_Cyanobacteria; c\_\_Melainabacteria; o\_\_Obscuribacterales; Ambiguous\_taxa; Ambiguous\_taxa; Ambiguous\_taxa





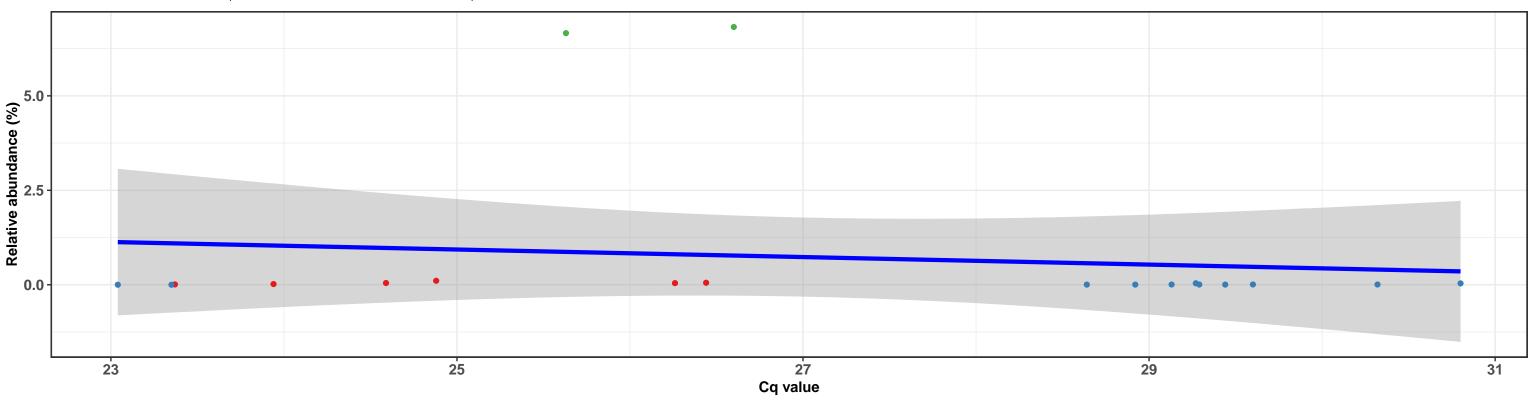
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

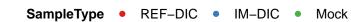


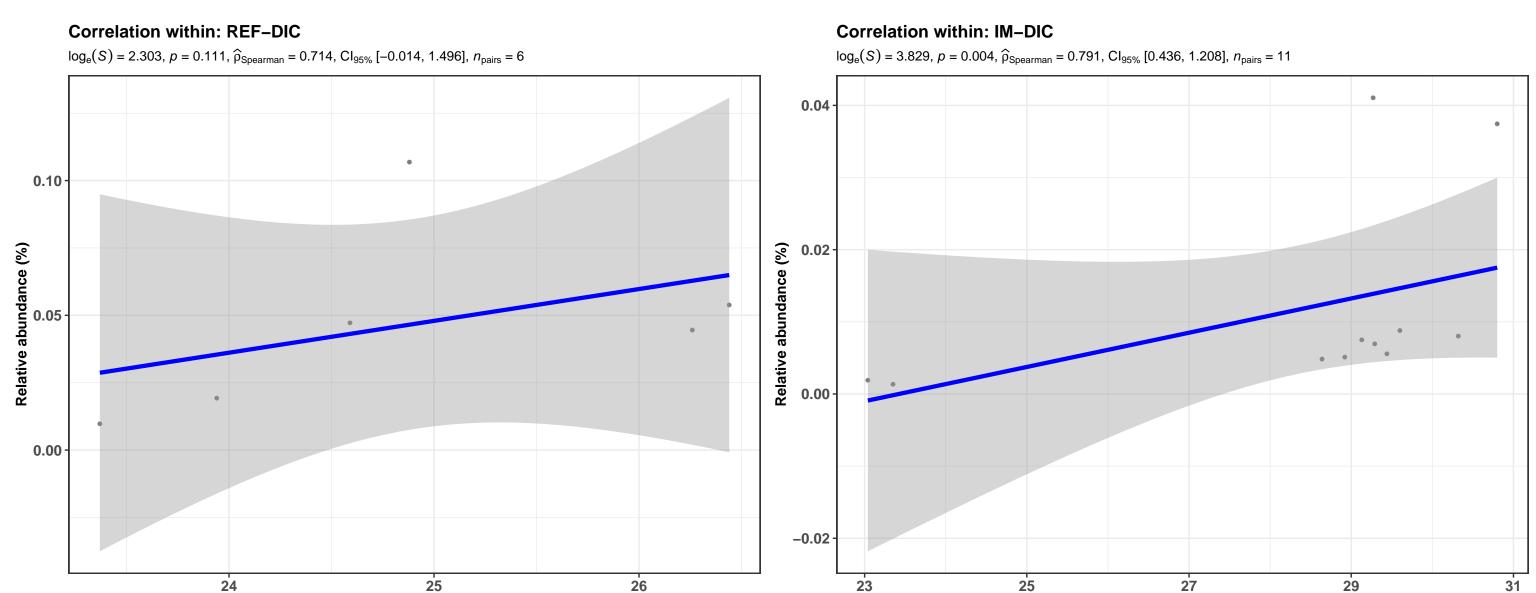
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

 $log_e(S) = 7.080, p = 0.864, \hat{\rho}_{Spearman} = -0.042, Cl_{95\%} [-0.541, 0.451], n_{pairs} = 19$ 

Cq value



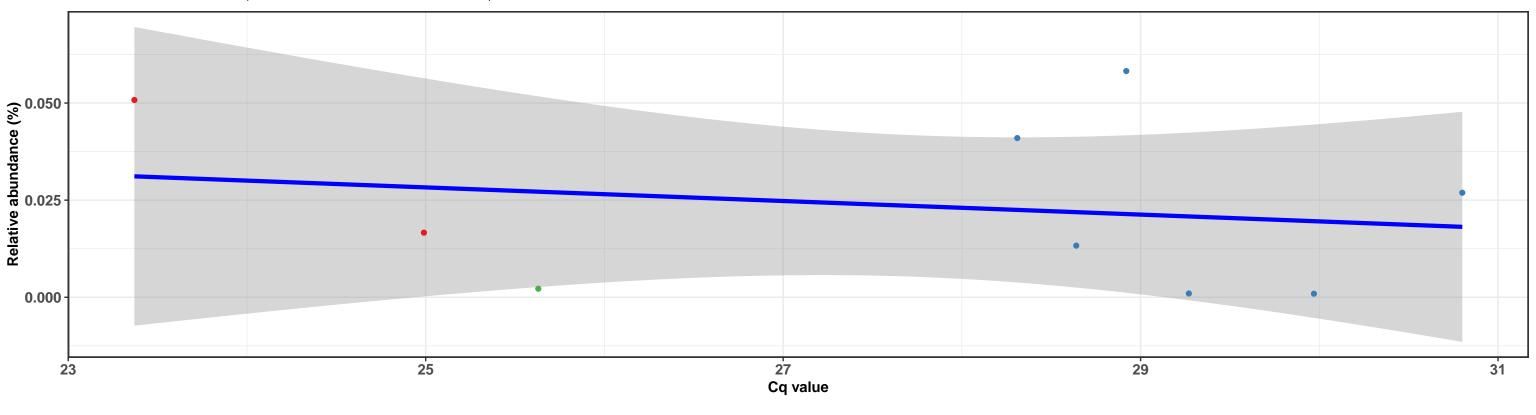


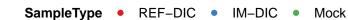


Cq value

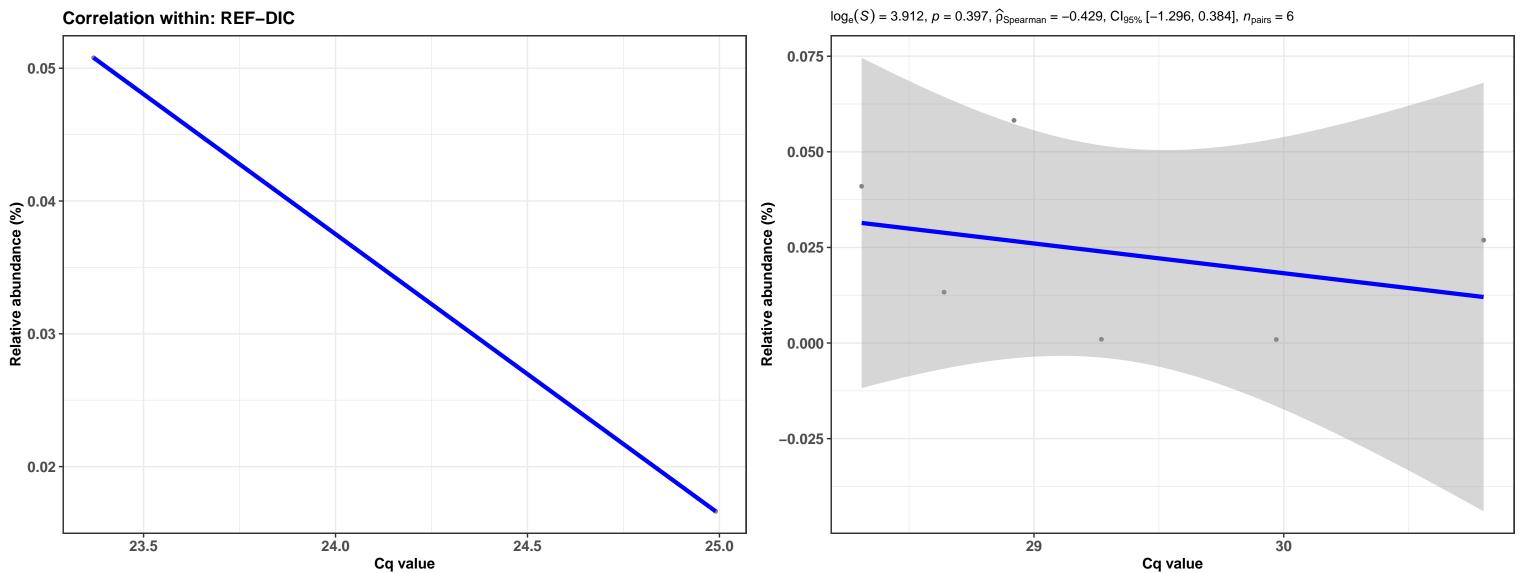
k\_Bacteria; p\_Firmicutes; c\_Bacilli; o\_Lactobacillales; f\_Lactobacillaceae; g\_Lactobacillus; s\_Lactobacillus fermentum

 $log_e(S) = 5.075$ , p = 0.381,  $\widehat{\rho}_{Spearman} = -0.333$ ,  $Cl_{95\%}$  [-1.058, 0.402],  $n_{pairs} = 9$ 

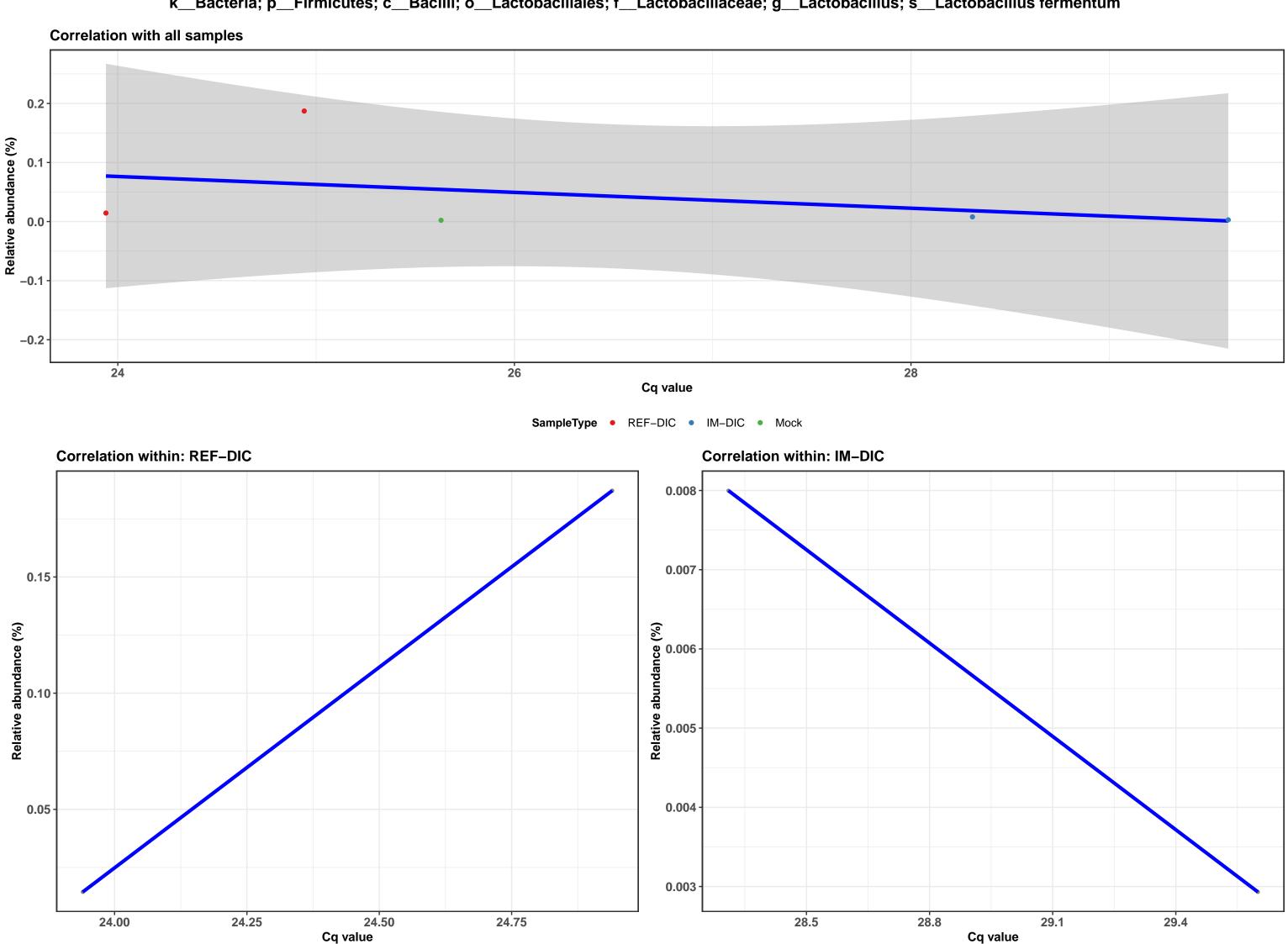




# Correlation within: IM-DIC

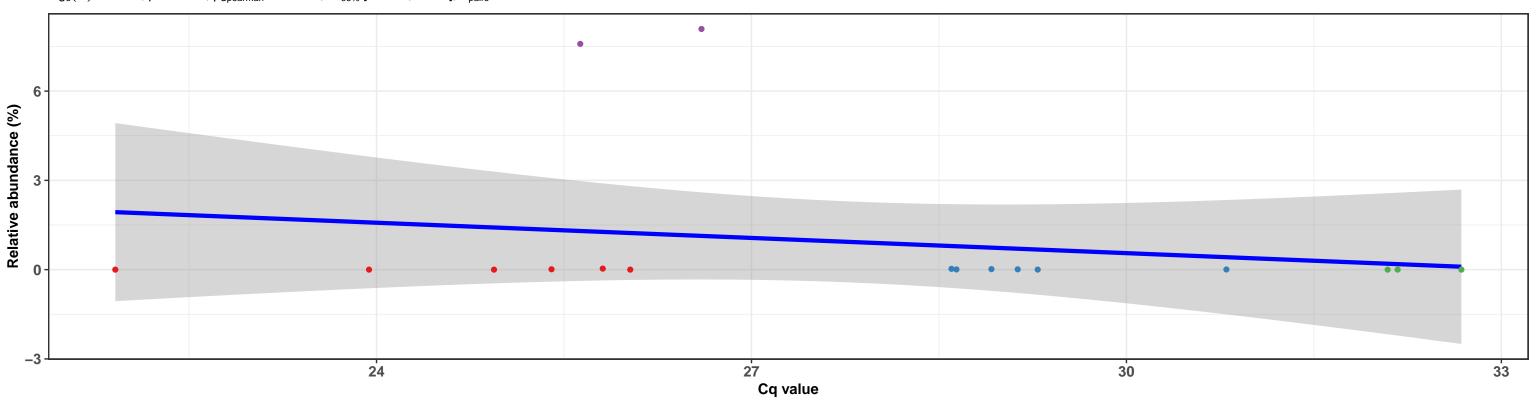


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum



k\_Bacteria; p\_Firmicutes; c\_Bacilli; o\_Lactobacillales; f\_Lactobacillaceae; g\_Lactobacillus; s\_Lactobacillus fermentum

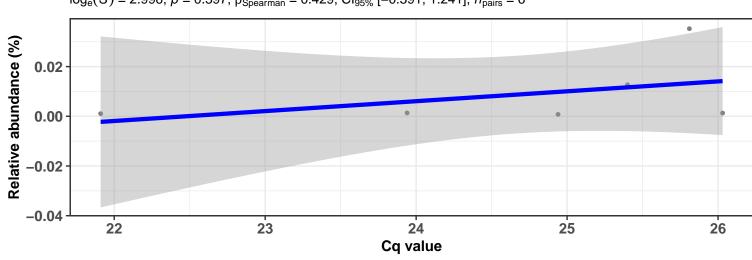
 $log_e(S) = 6.914, p = 0.368, \widehat{\rho}_{Spearman} = -0.233, Cl_{95\%} [-0.707, 0.318], n_{pairs} = 17$ 





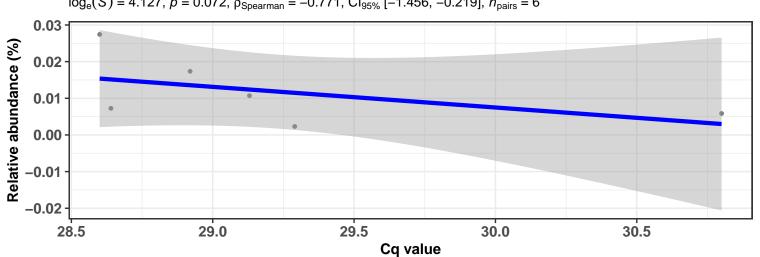
#### **Correlation within: REF-DIC**

 $log_e(S) = 2.996$ , p = 0.397,  $\hat{\rho}_{Spearman} = 0.429$ ,  $Cl_{95\%}$  [-0.391, 1.241],  $n_{pairs} = 6$ 

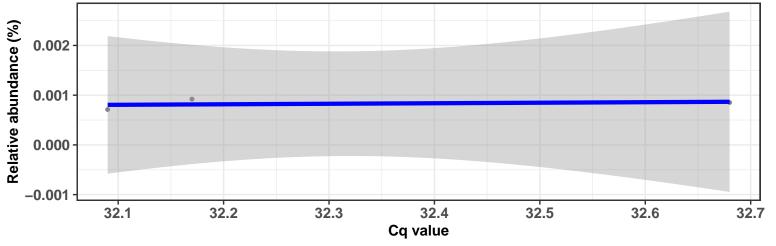


# Correlation within: IM-DIC

 $log_e(S) = 4.127$ , p = 0.072,  $\widehat{\rho}_{Spearman} = -0.771$ ,  $Cl_{95\%}$  [-1.456, -0.219],  $n_{pairs} = 6$ 

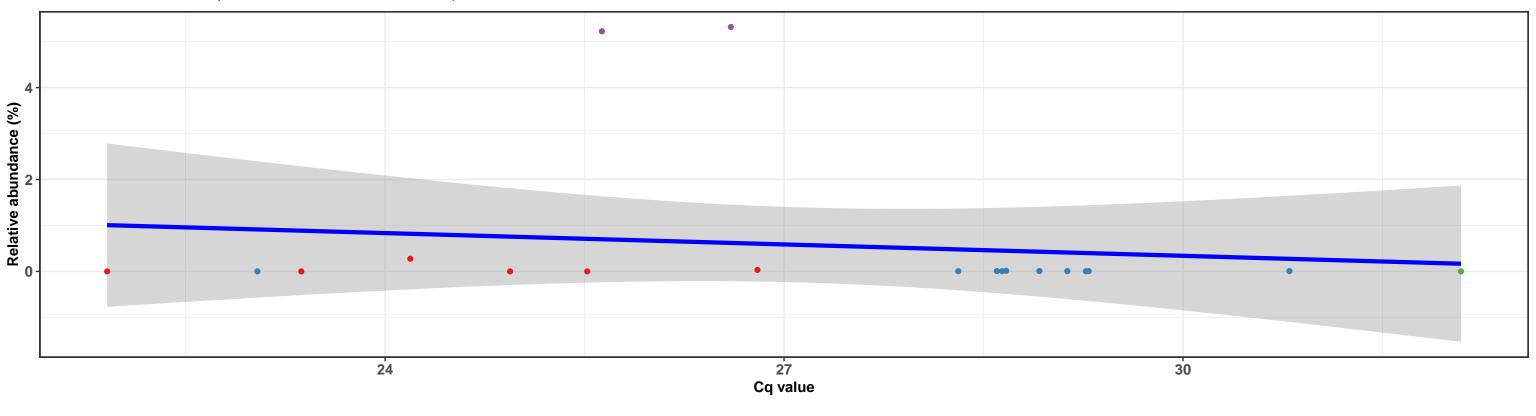






k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

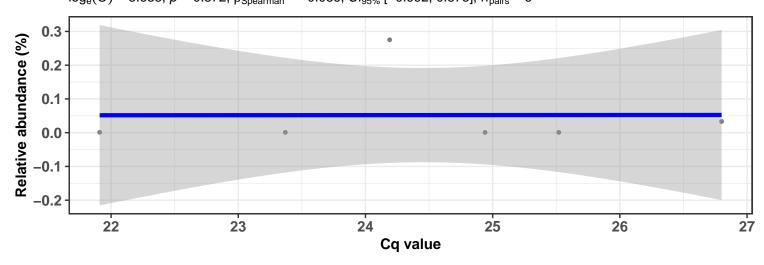
 $log_e(S) = 6.968, p = 0.781, \hat{\rho}_{Spearman} = 0.068, Cl_{95\%} [-0.473, 0.597], n_{pairs} = 19$ 





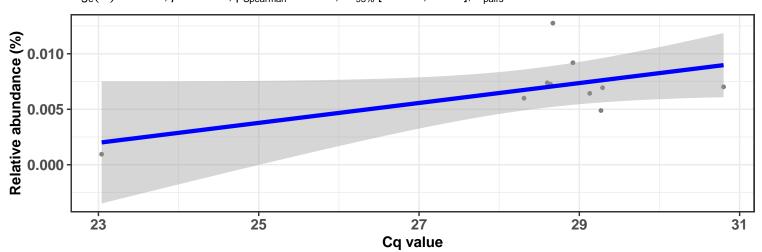
#### Correlation within: REF-DIC

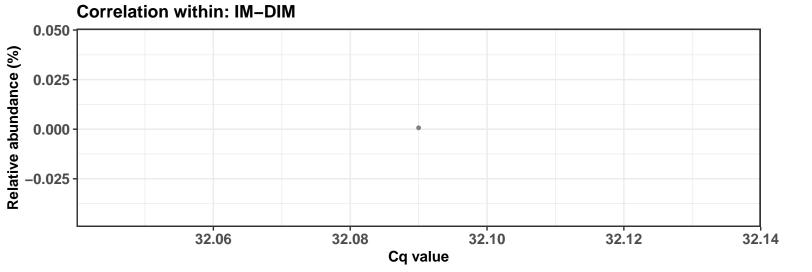
 $log_e(S) = 3.638, p = 0.872, \hat{\rho}_{Spearman} = -0.086, Cl_{95\%} [-0.992, 0.875], n_{pairs} = 6$ 



#### Correlation within: IM-DIC

 $log_e(S) = 4.984$ , p = 0.751,  $\hat{\rho}_{Spearman} = 0.115$ ,  $Cl_{95\%}$  [-0.686, 0.886],  $n_{pairs} = 10$ 

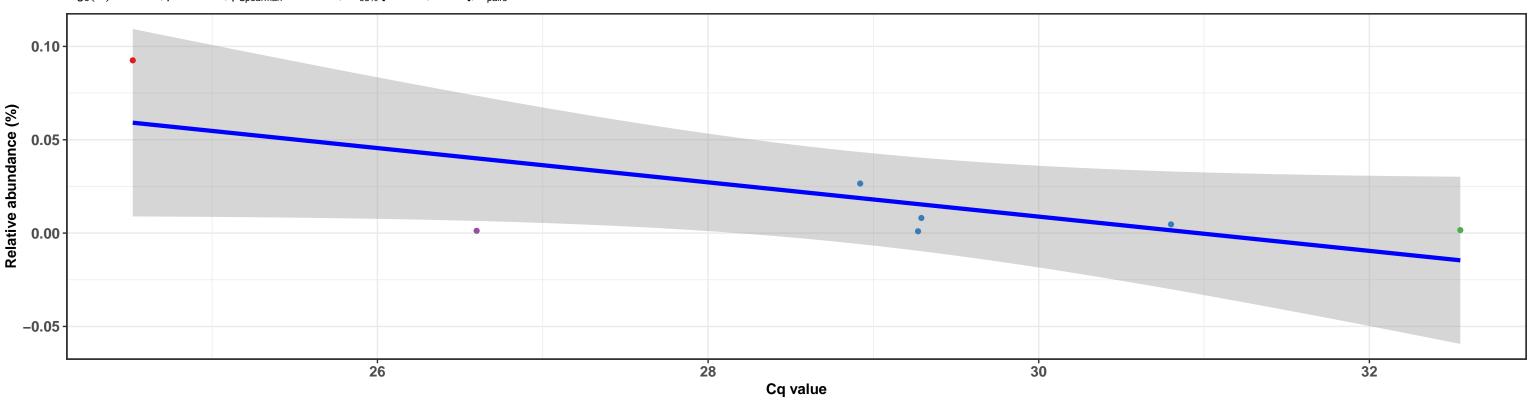




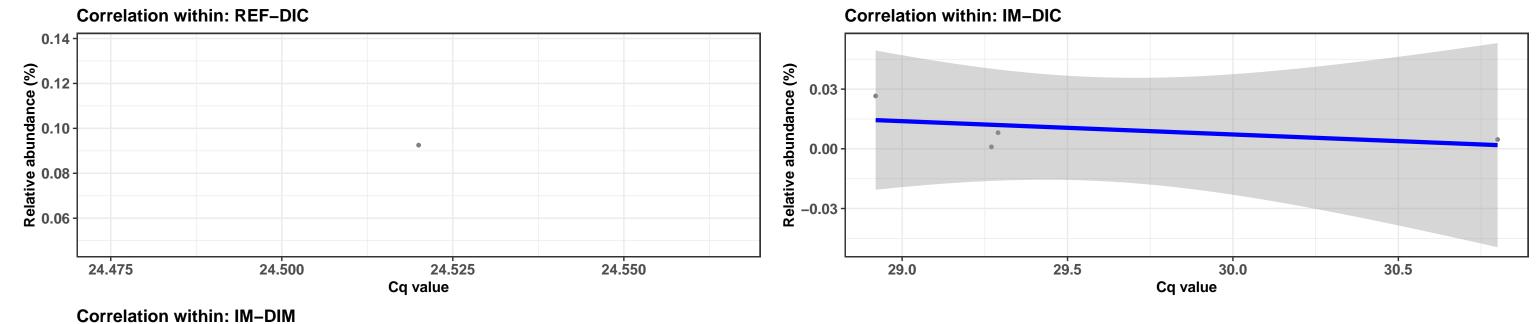
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

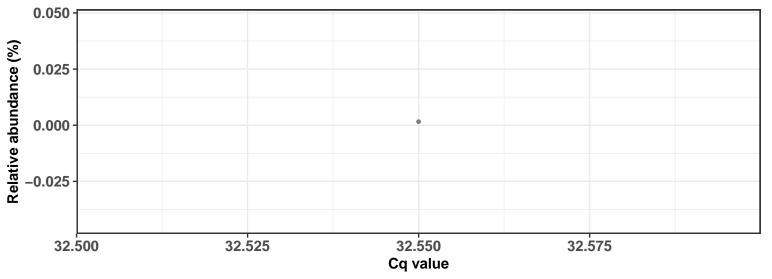


 $log_e(S) = 4.304$ , p = 0.482,  $\hat{\rho}_{Spearman} = -0.321$ ,  $Cl_{95\%}$  [-1.276, 0.581],  $n_{pairs} = 7$ 

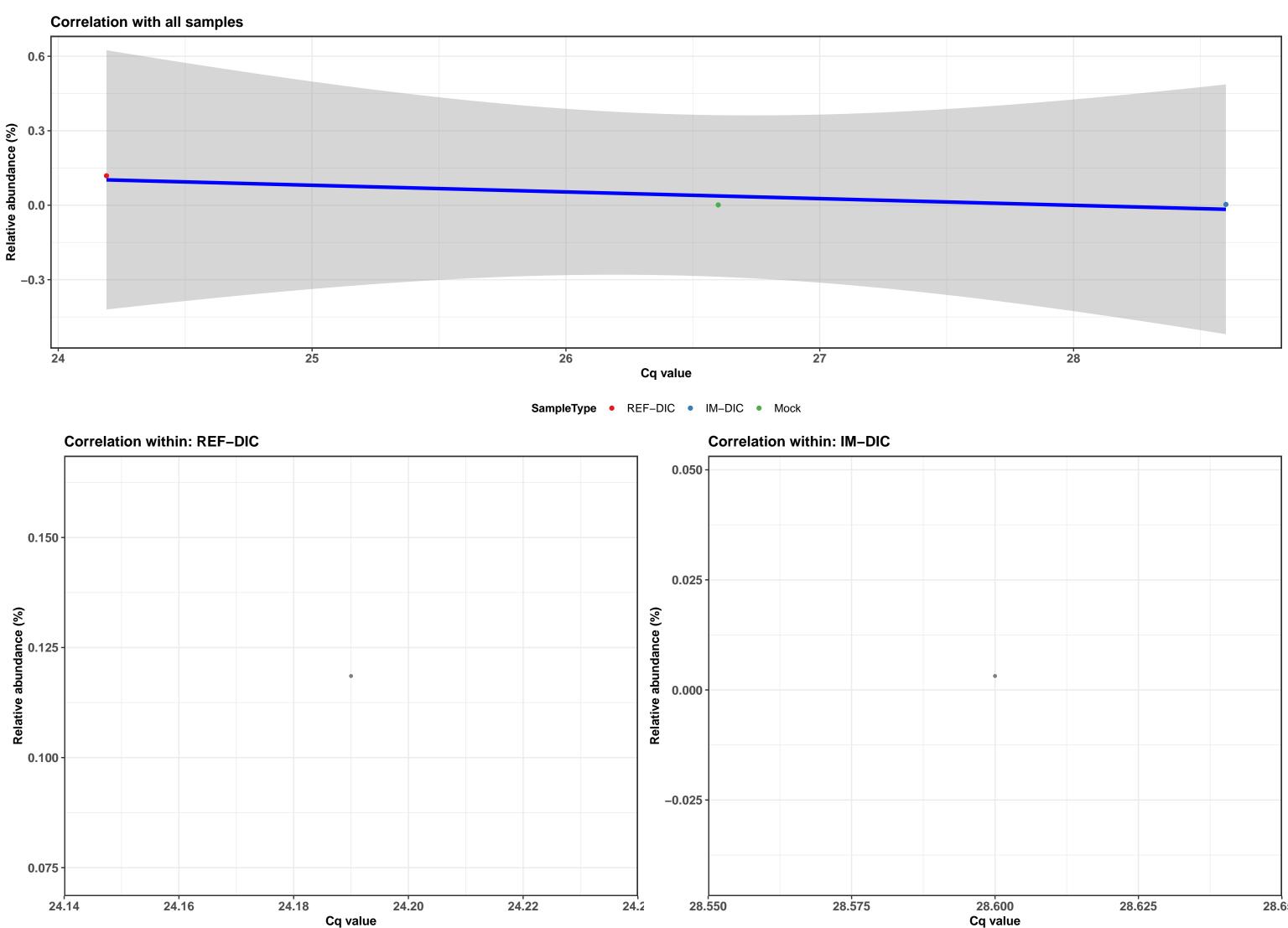




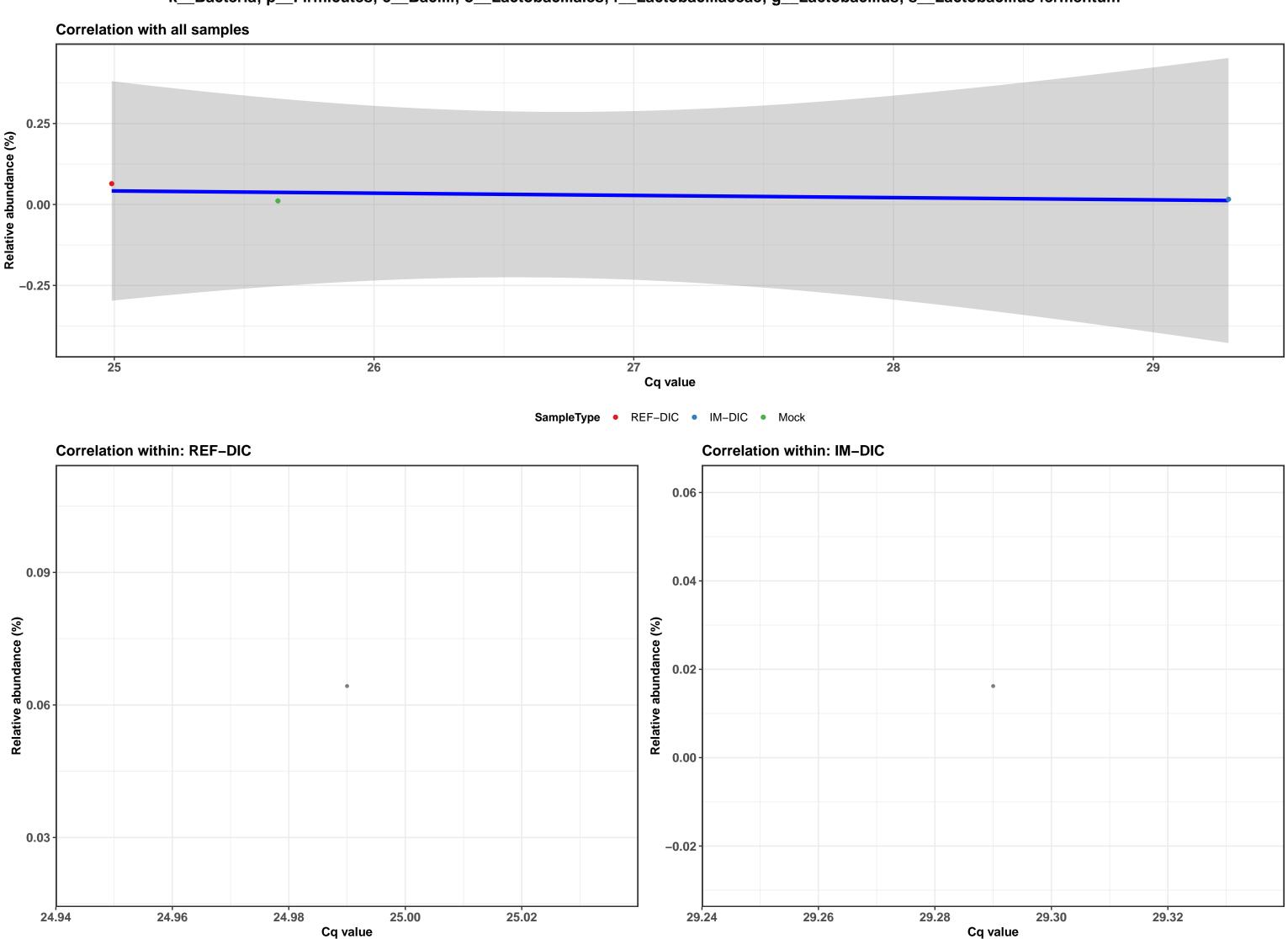




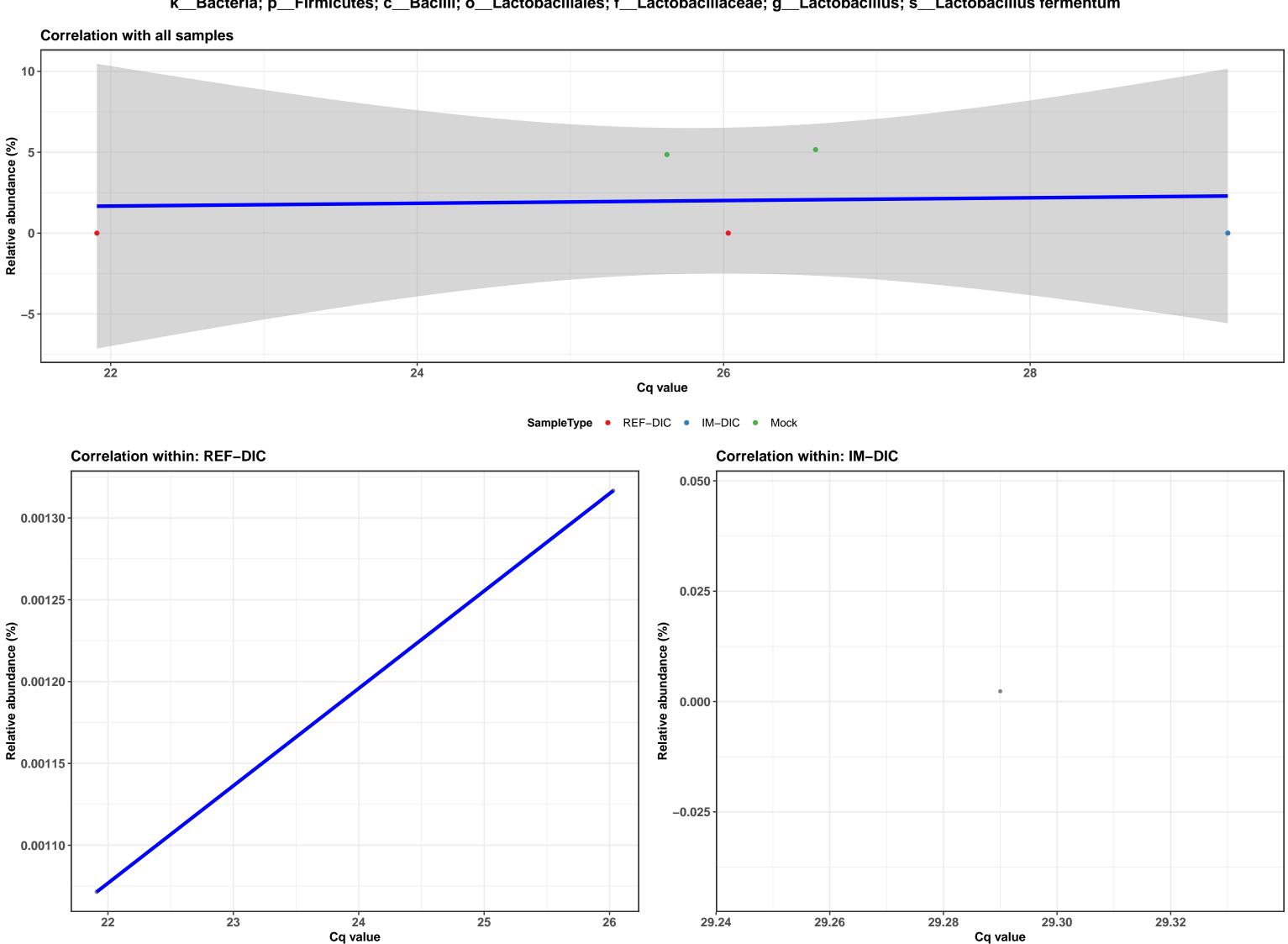
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum



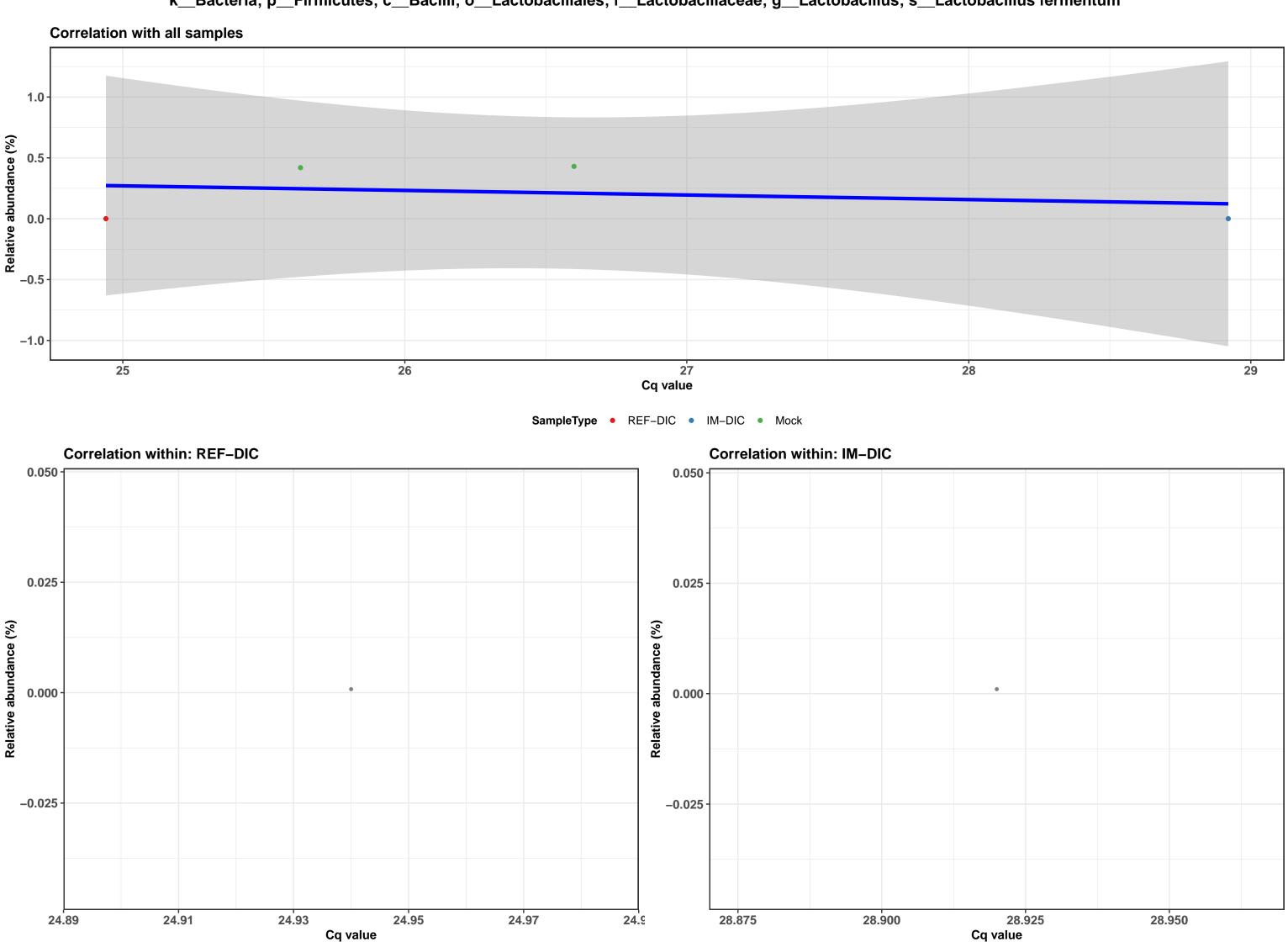
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum



k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

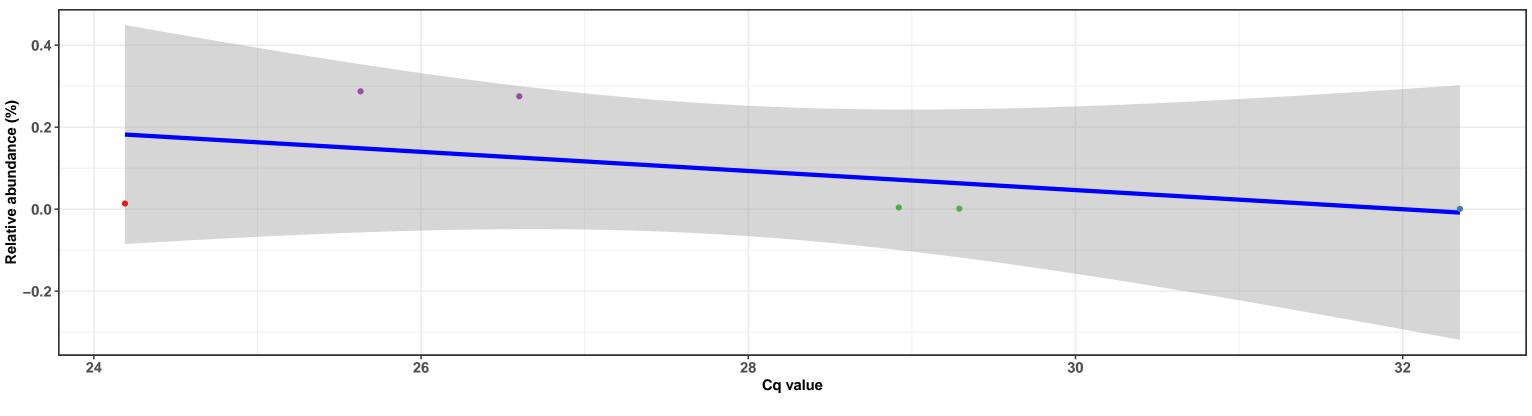


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

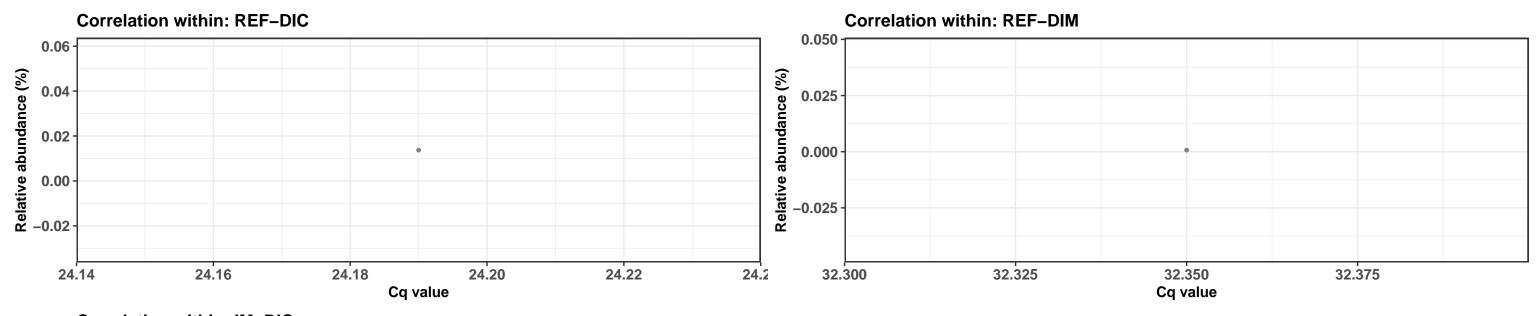


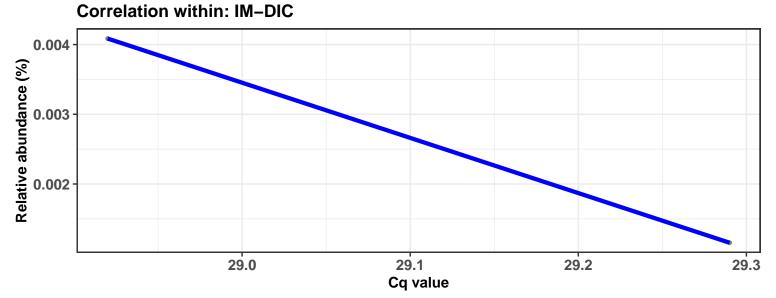
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

 $log_e(S) = 4.159, p = 0.042, \hat{\rho}_{Spearman} = -0.829, Cl_{95\%} [-1.491, -0.263], n_{pairs} = 6$ 



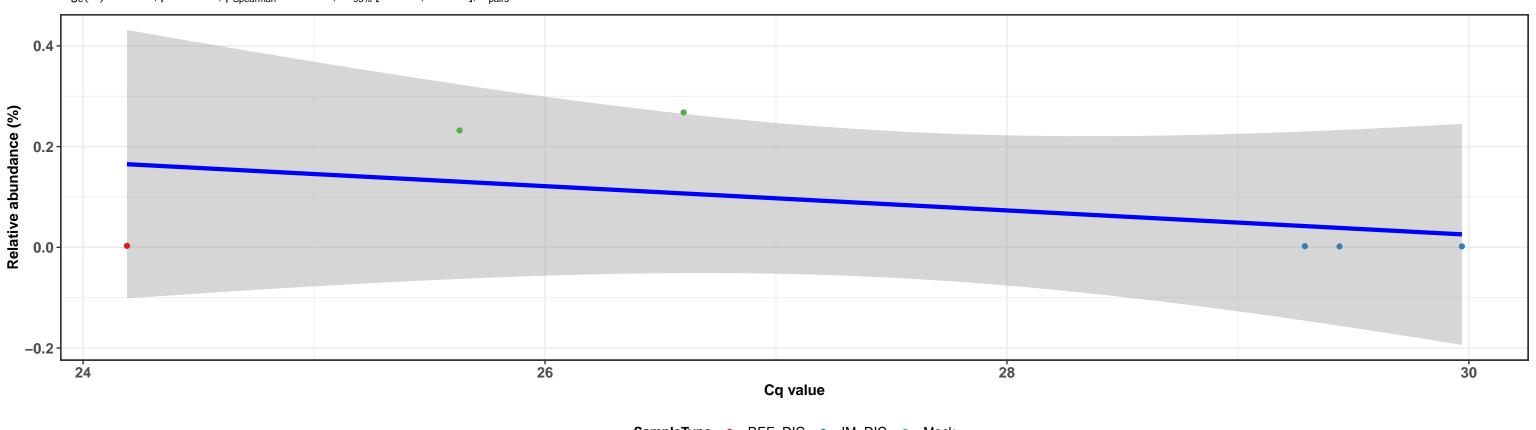


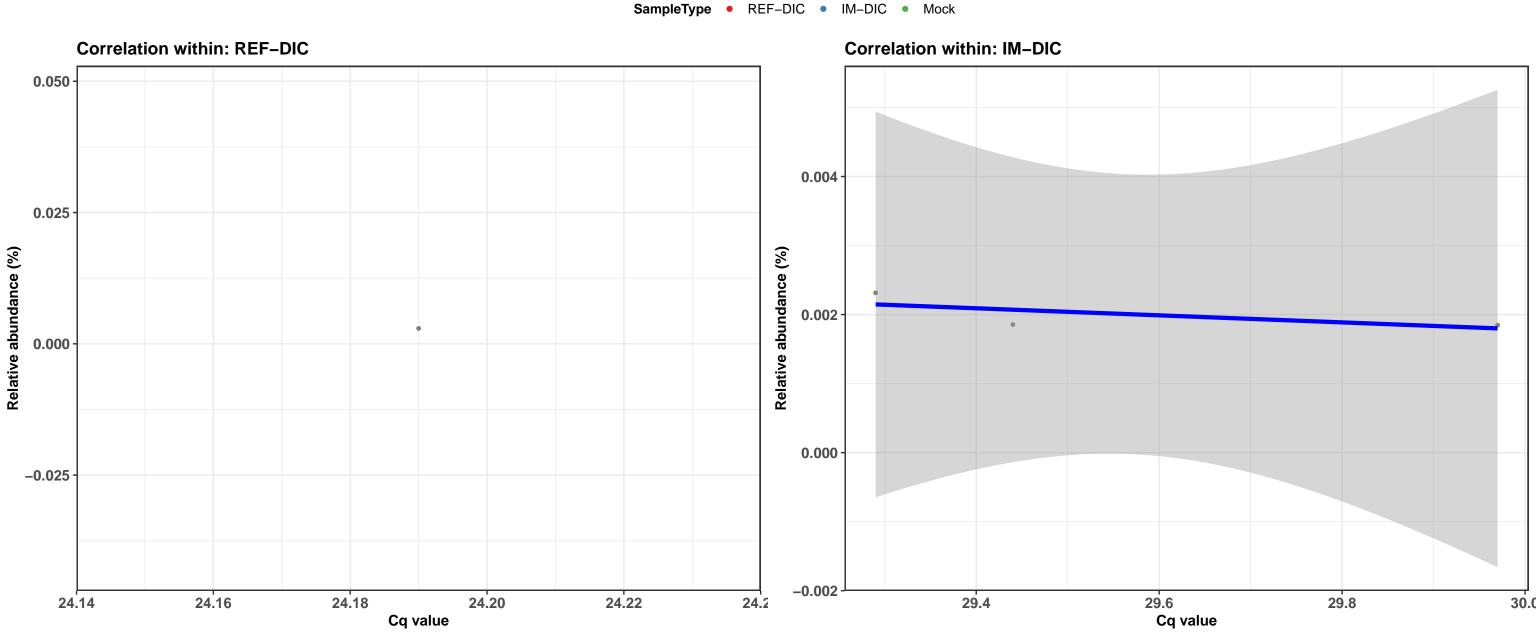




k\_Bacteria; p\_Firmicutes; c\_Bacilli; o\_Lactobacillales; f\_Lactobacillaceae; g\_Lactobacillus; s\_Lactobacillus fermentum

 $log_e(S) = 4.127$ , p = 0.072,  $\hat{\rho}_{Spearman} = -0.771$ ,  $Cl_{95\%}$  [-1.457, -0.186],  $n_{pairs} = 6$ 





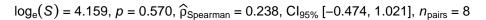
k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum

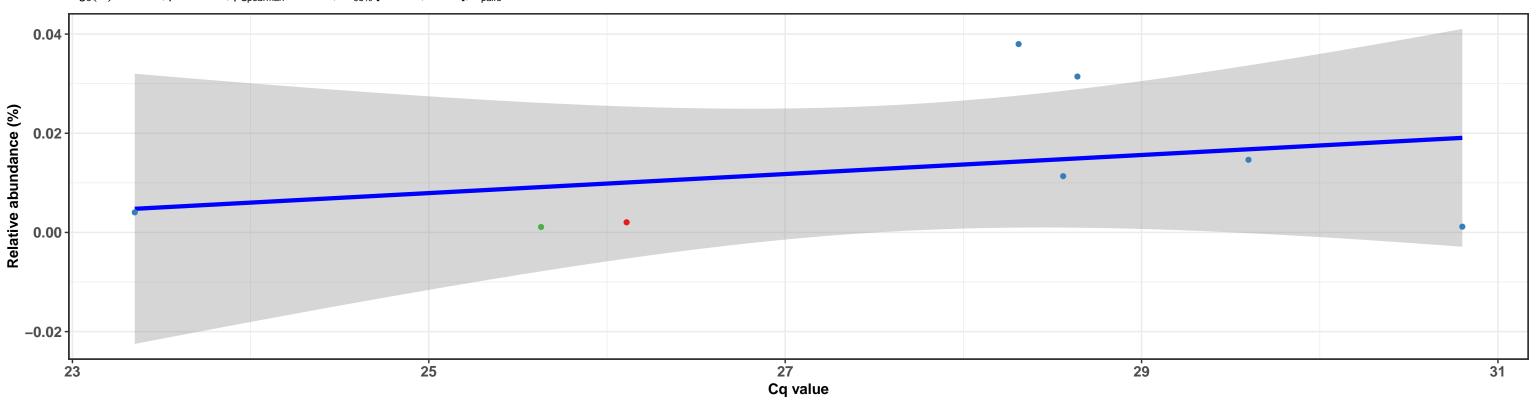


**Correlation within: REF-DIC** 

26.08

26.06





SampleType • REF-DIC • IM-DIC • Mock

# 0.025 - 0.000 - 0.000 - 0.0025 - 0.0025 - 0.0025 - 0.0025 - 0.000 - 0.

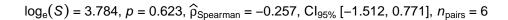
26.10

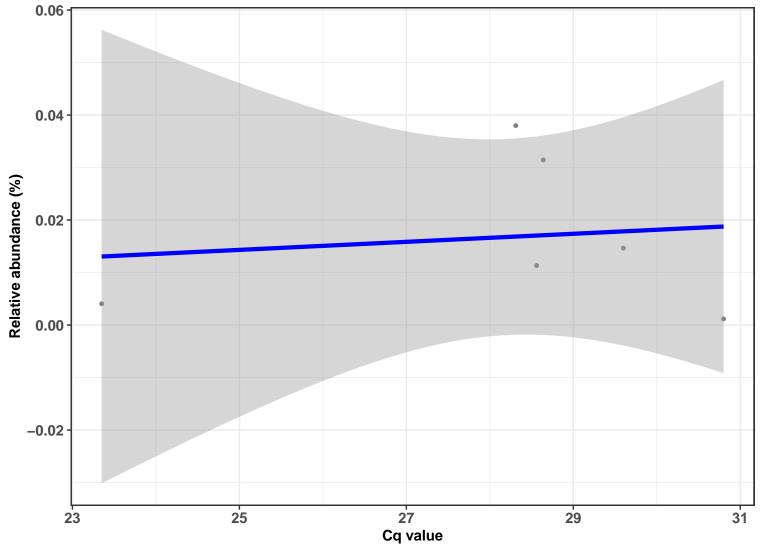
26.12

Cq value

26.14

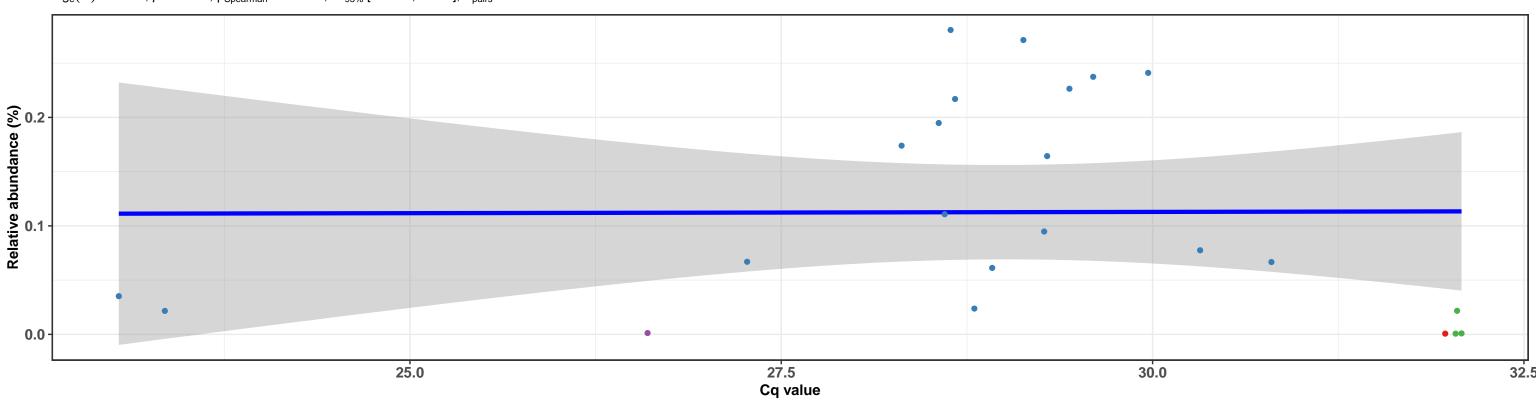
# Correlation within: IM-DIC



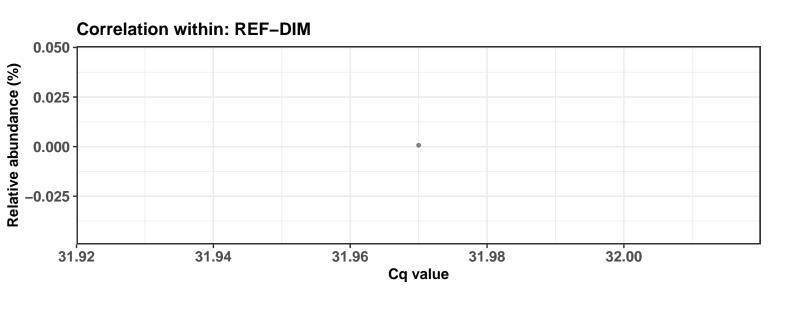


k\_\_Bacteria; p\_\_Bacteroidetes; c\_\_Bacteroidia; o\_\_Flavobacteriales; f\_\_Flavobacteriaceae; g\_\_Flavobacterium; NA

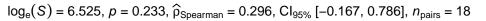
 $log_e(S) = 7.768$ , p = 0.444,  $\hat{\rho}_{Spearman} = -0.168$ ,  $Cl_{95\%}$  [-0.665, 0.321],  $n_{pairs} = 23$ 

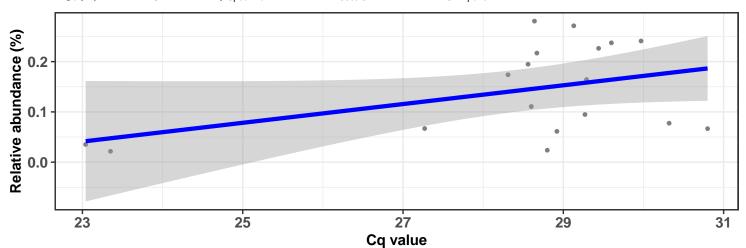


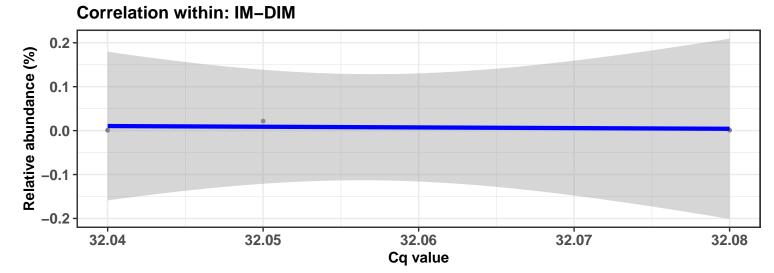




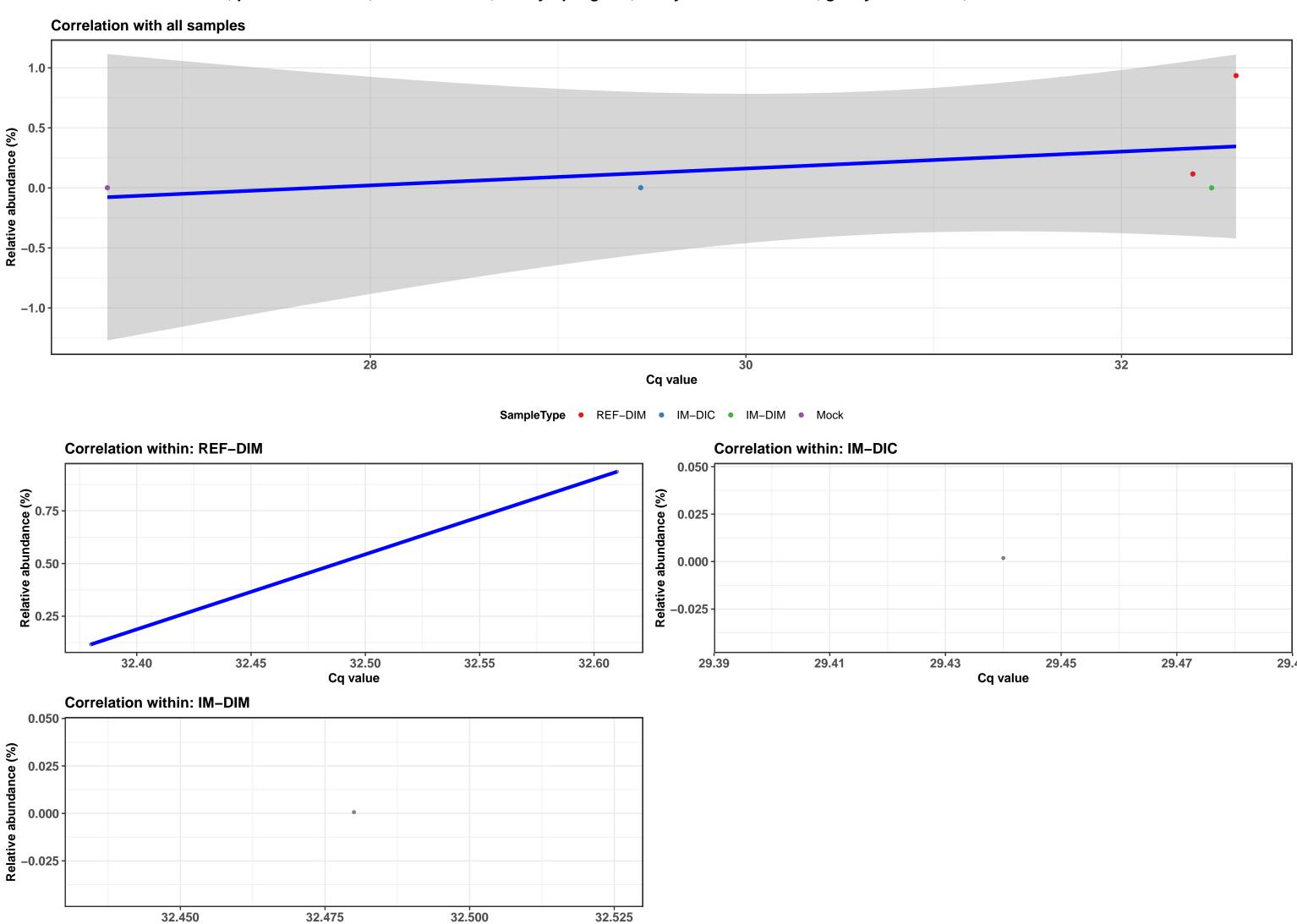
#### Correlation within: IM-DIC







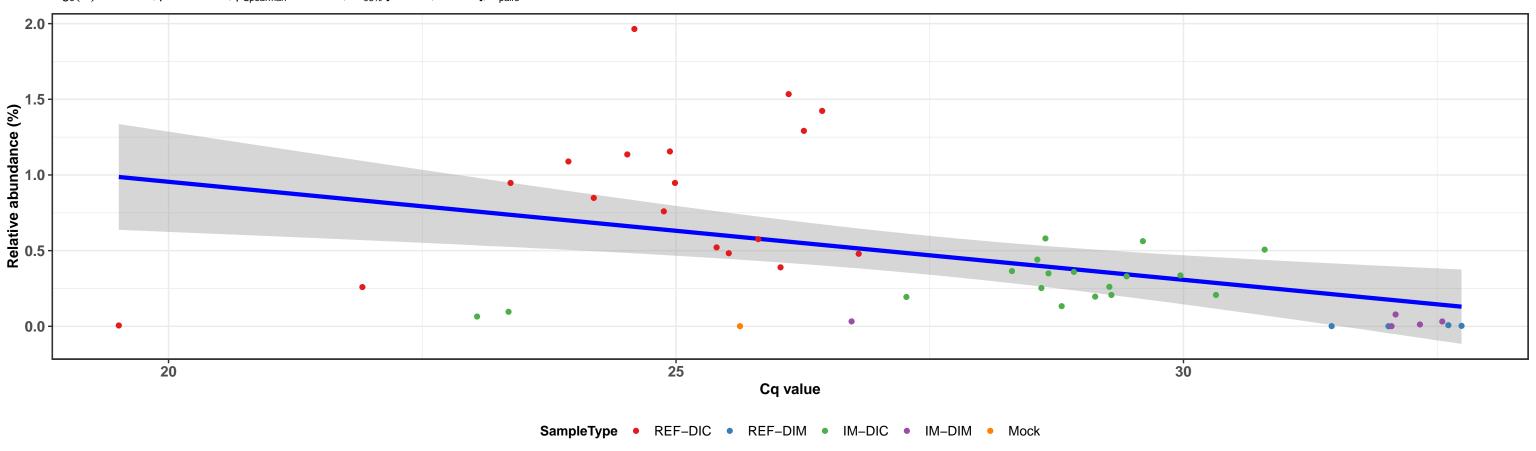
k\_\_Bacteria; p\_\_Bacteroidetes; c\_\_Bacteroidia; o\_\_Cytophagales; f\_\_Hymenobacteraceae; g\_\_Hymenobacter; s\_\_uncultured bacterium



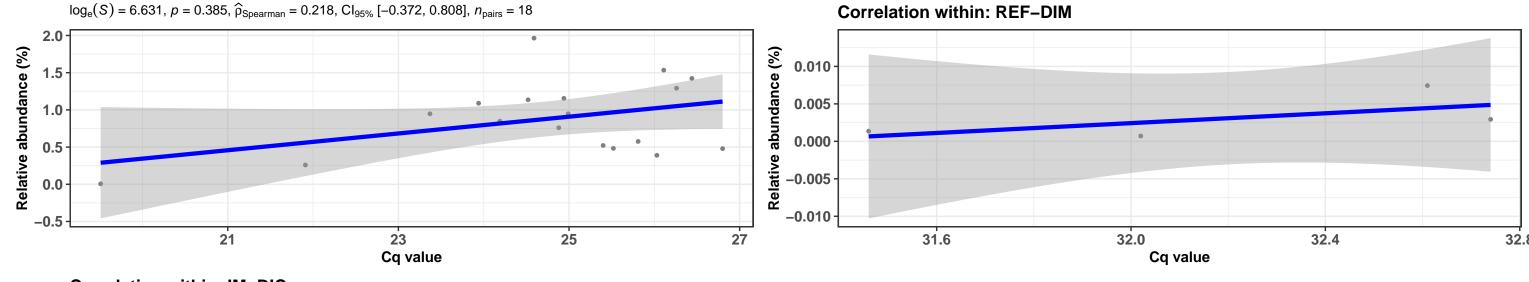
Cq value

k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Leuconostocaceae; g\_\_Weissella; s\_\_uncultured bacterium

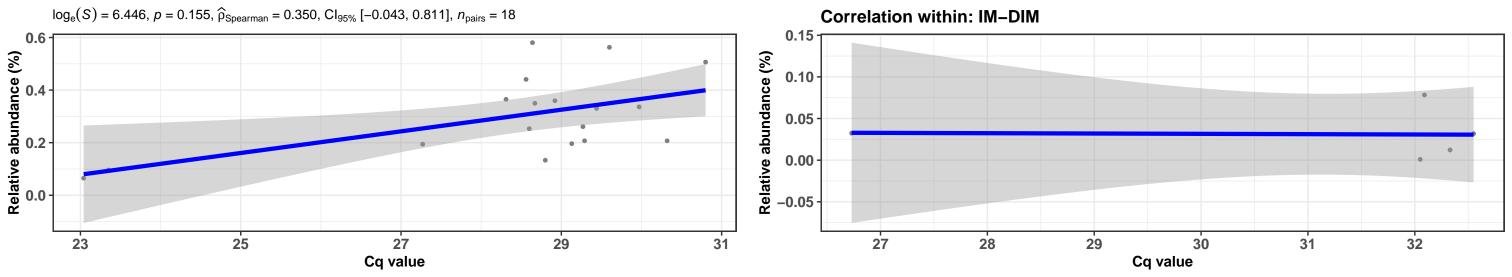
 $log_e(S) = 10.095, p = < 0.001, \widehat{\rho}_{Spearman} = -0.494, Cl_{95\%} [-0.801, -0.229], n_{pairs} = 46$ 



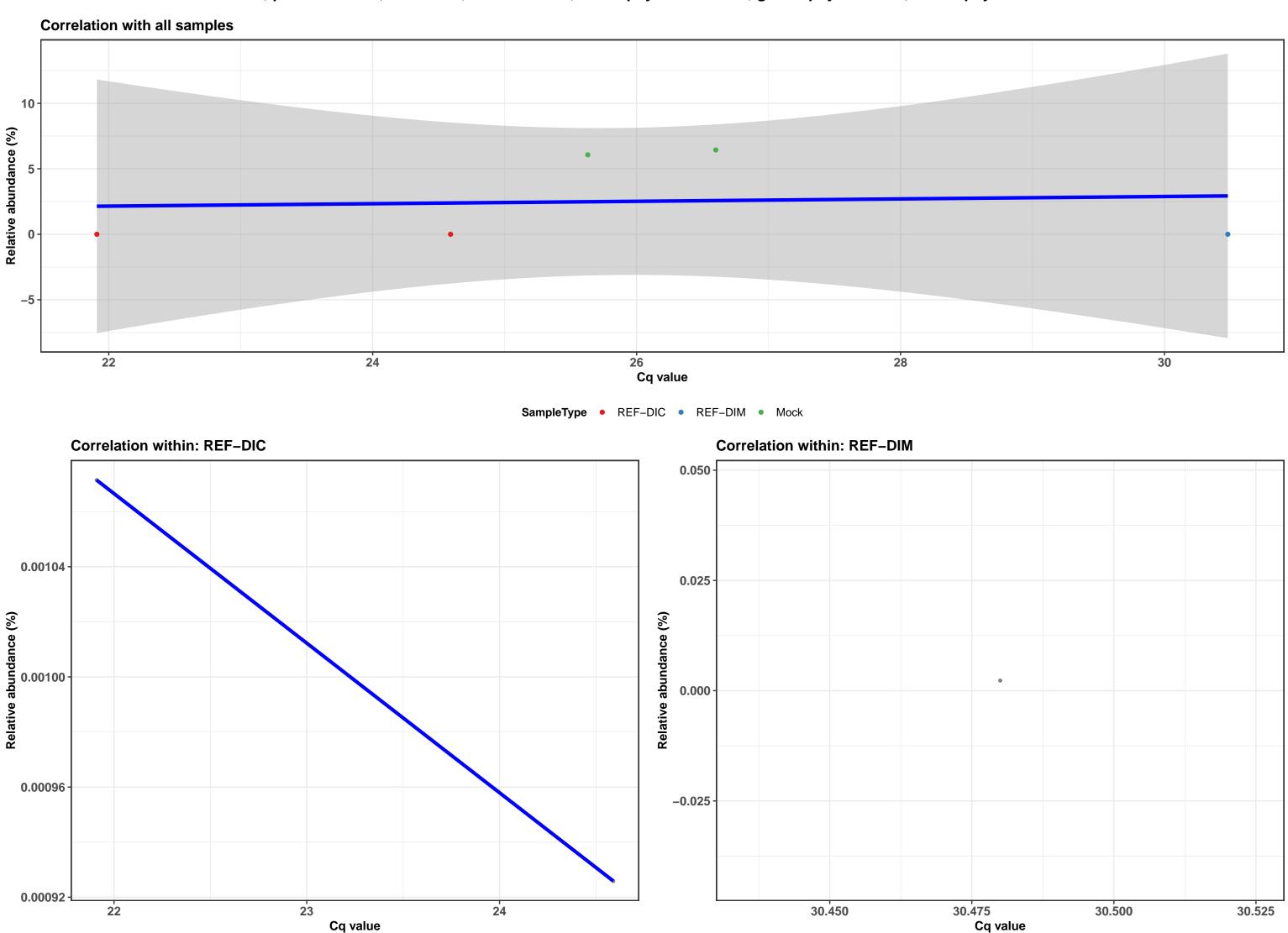
#### **Correlation within: REF-DIC**



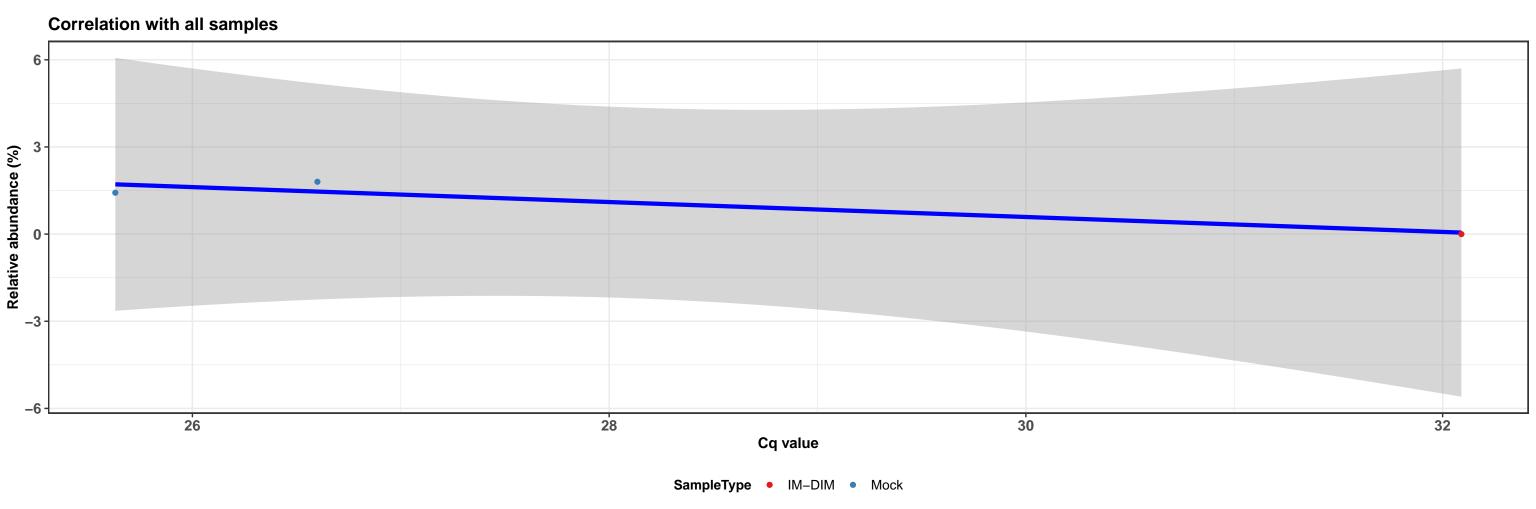


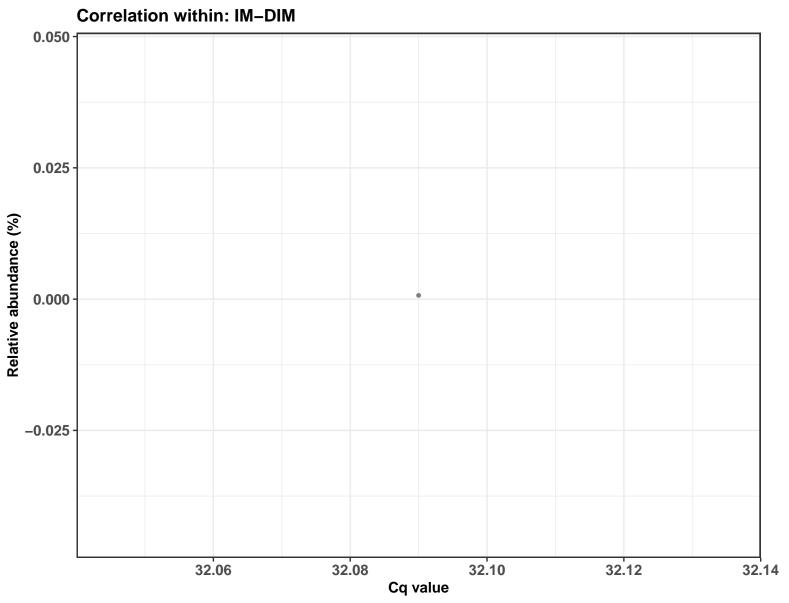


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Staphylococcaceae; g\_\_Staphylococcus; s\_\_Staphylococcus aureus

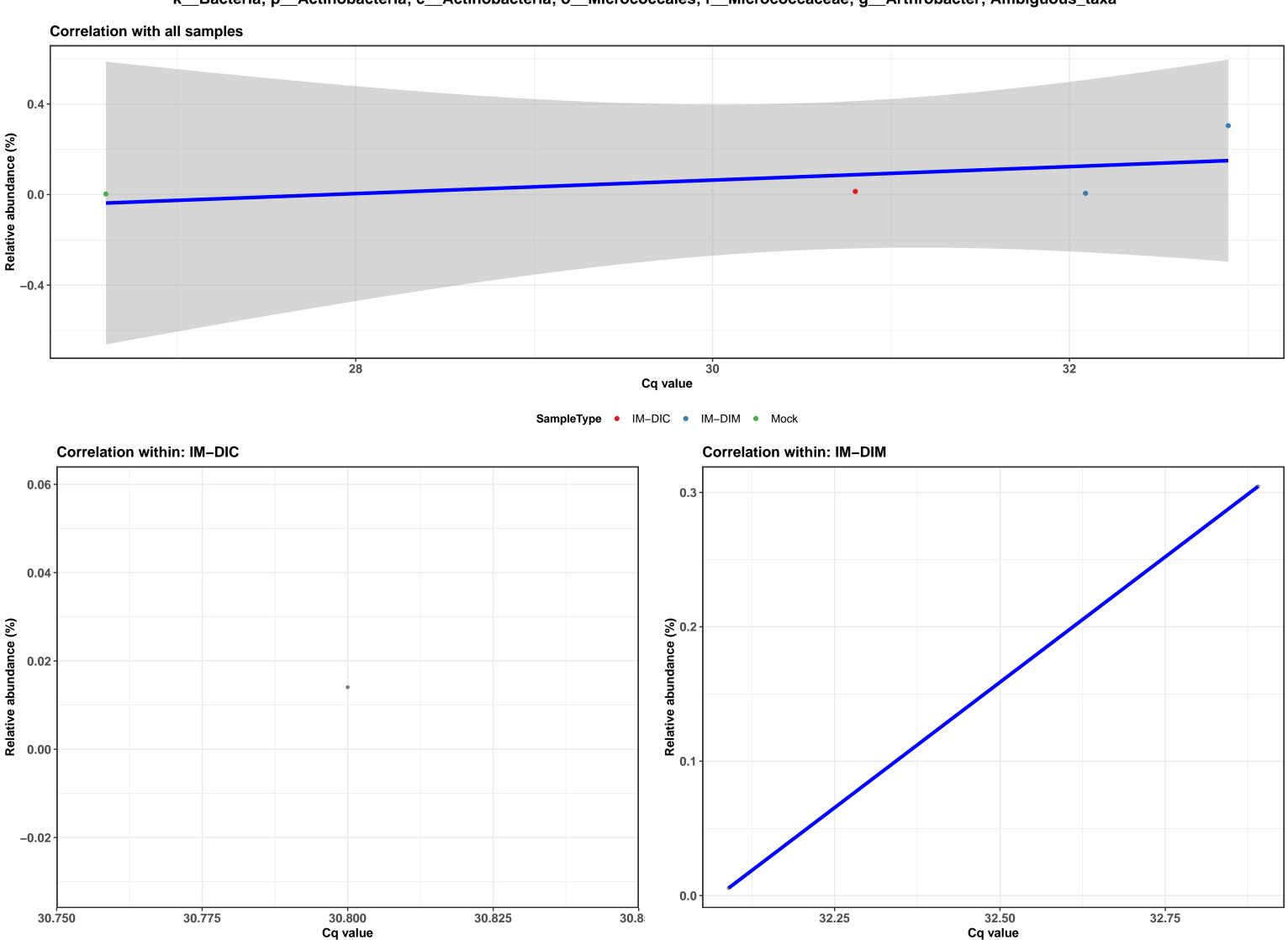


k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Bacillales; f\_\_Staphylococcaceae; g\_\_Staphylococcus; s\_\_Staphylococcus aureus

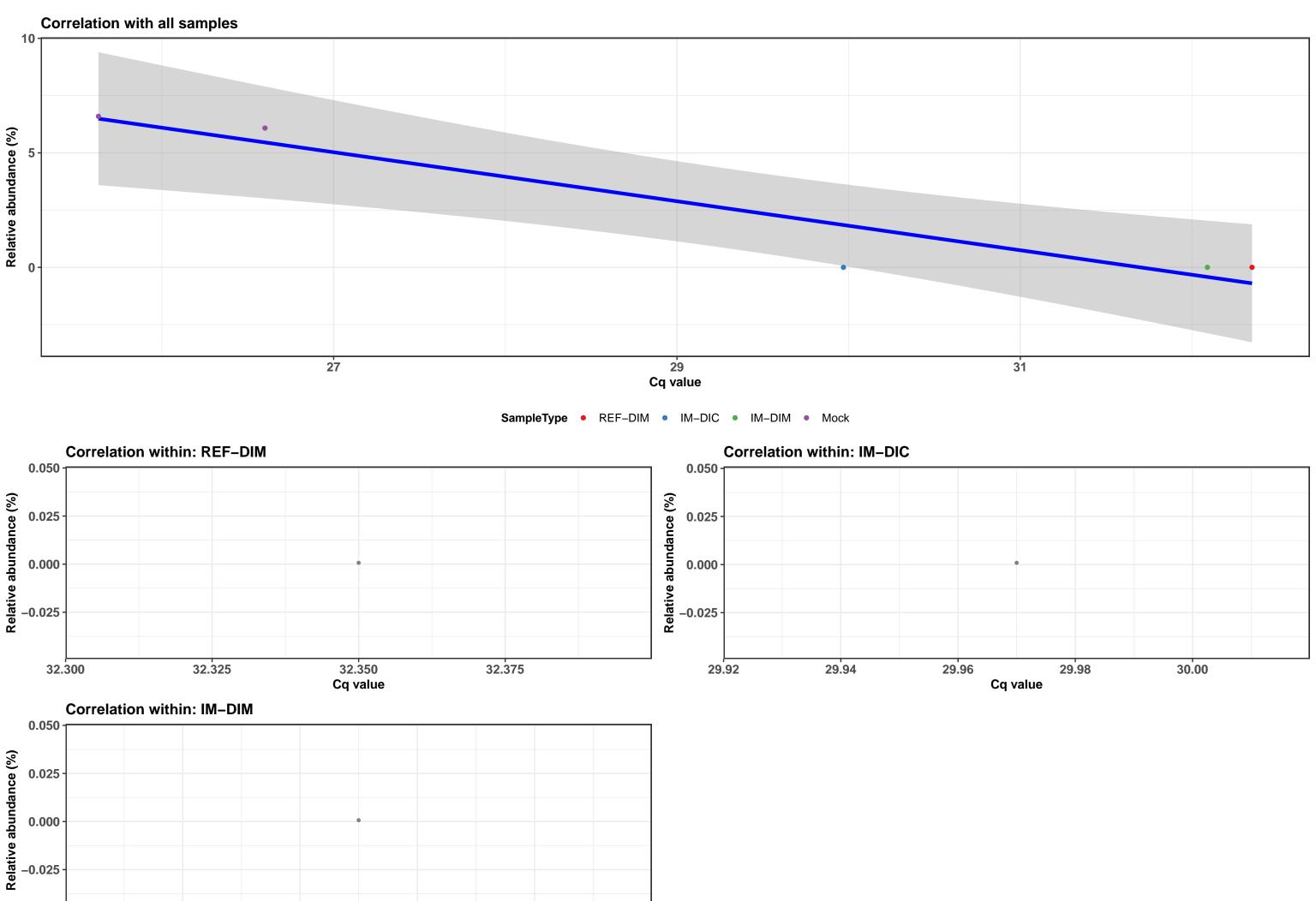




k\_\_Bacteria; p\_\_Actinobacteria; c\_\_Actinobacteria; o\_\_Micrococcales; f\_\_Micrococcaceae; g\_\_Arthrobacter; Ambiguous\_taxa



k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum



32.14

32.08

32.10

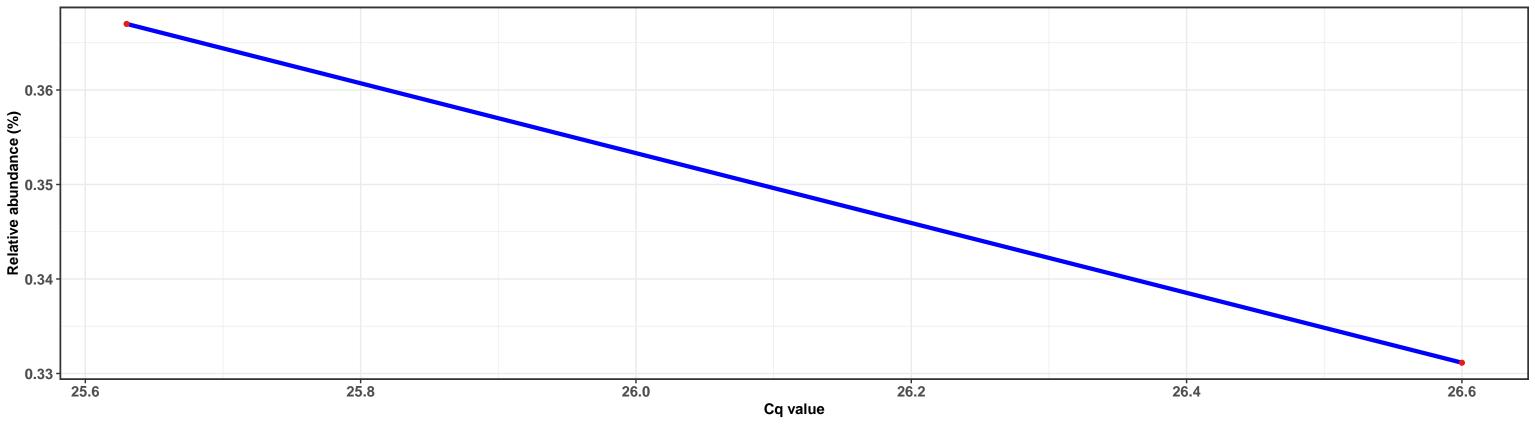
Cq value

32.12

32.06

k\_\_Bacteria; p\_\_Firmicutes; c\_\_Bacilli; o\_\_Lactobacillales; f\_\_Lactobacillaceae; g\_\_Lactobacillus; s\_\_Lactobacillus fermentum





SampleType • Mock

# **Correlation within:**

