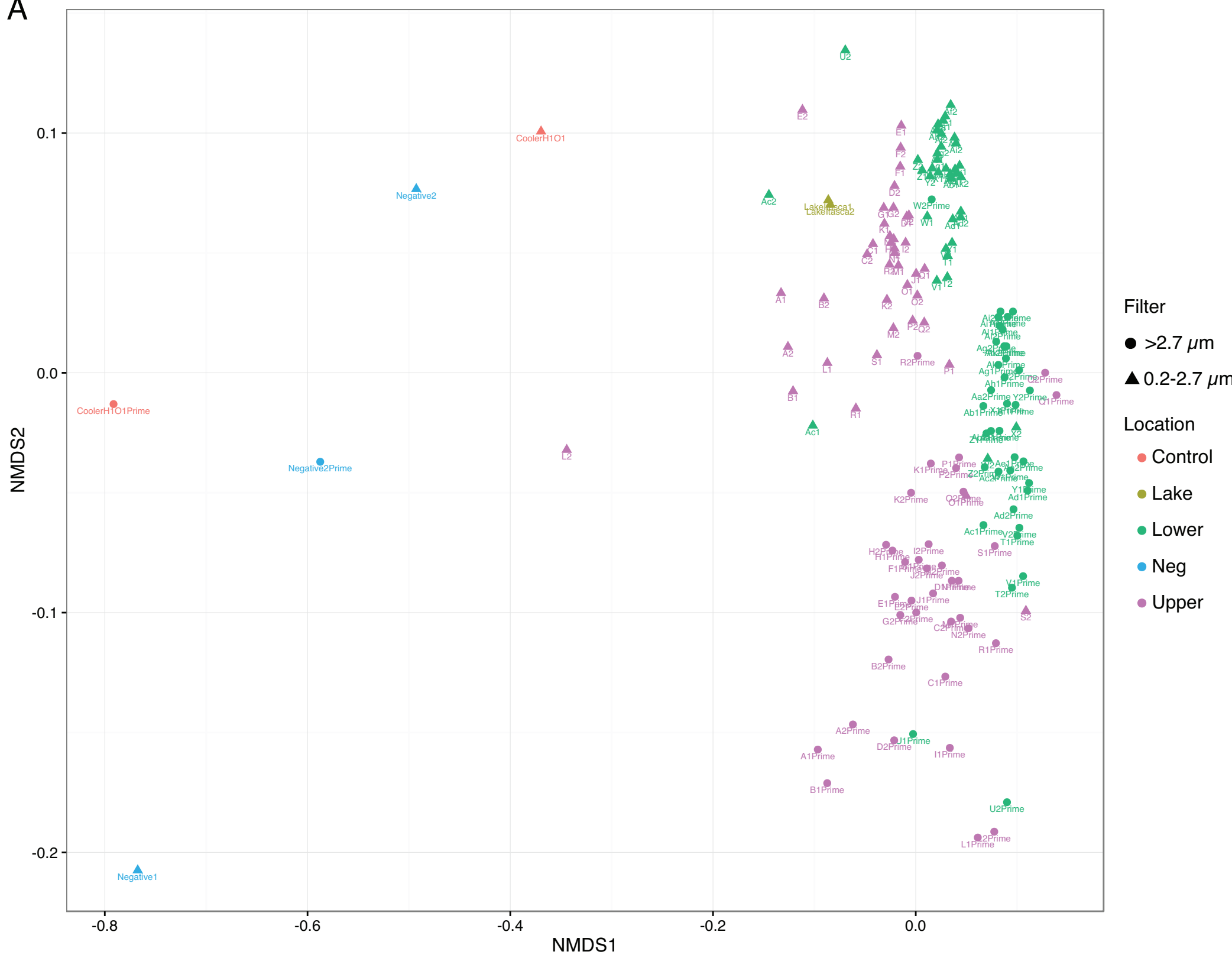


Figure S1 A



B

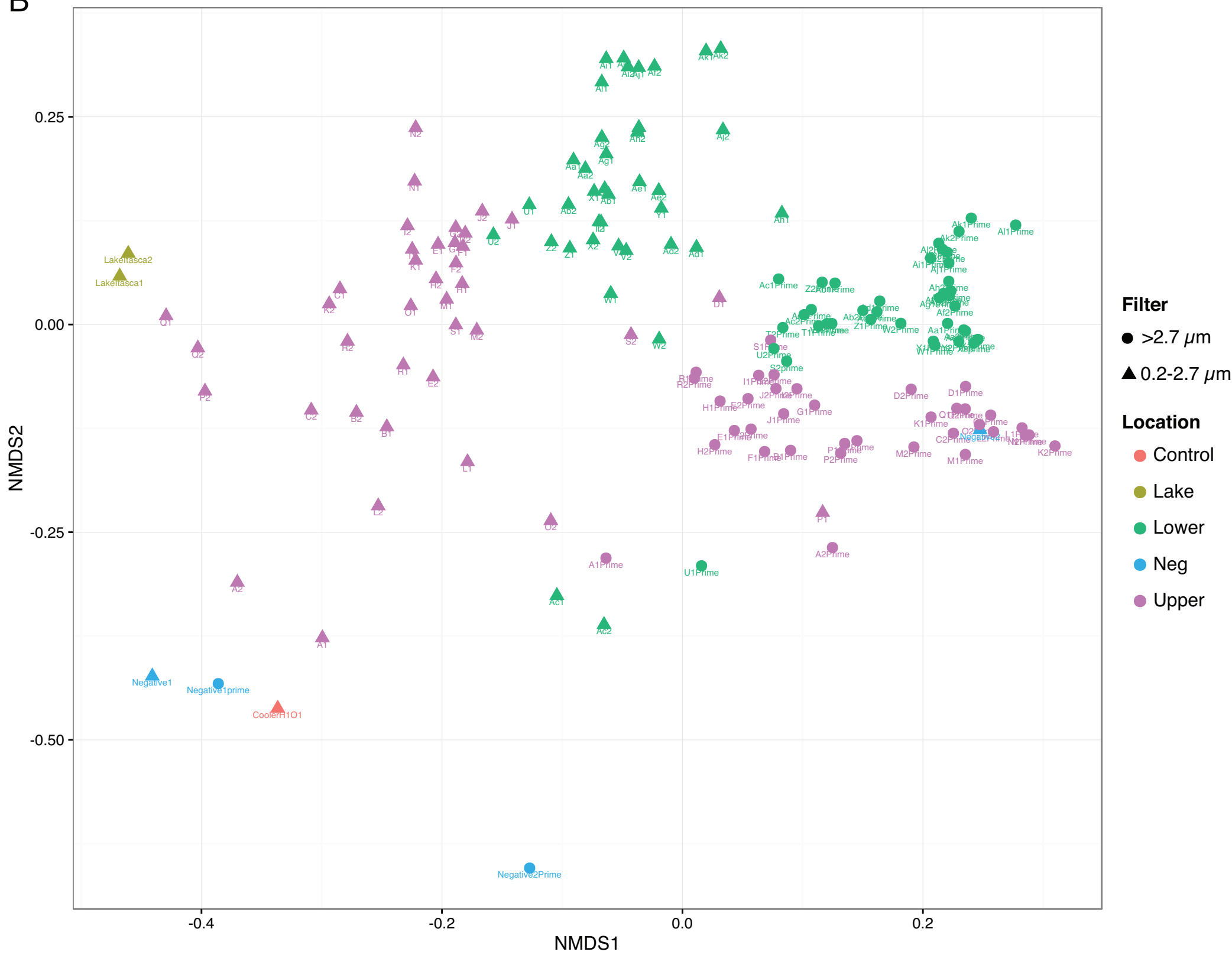
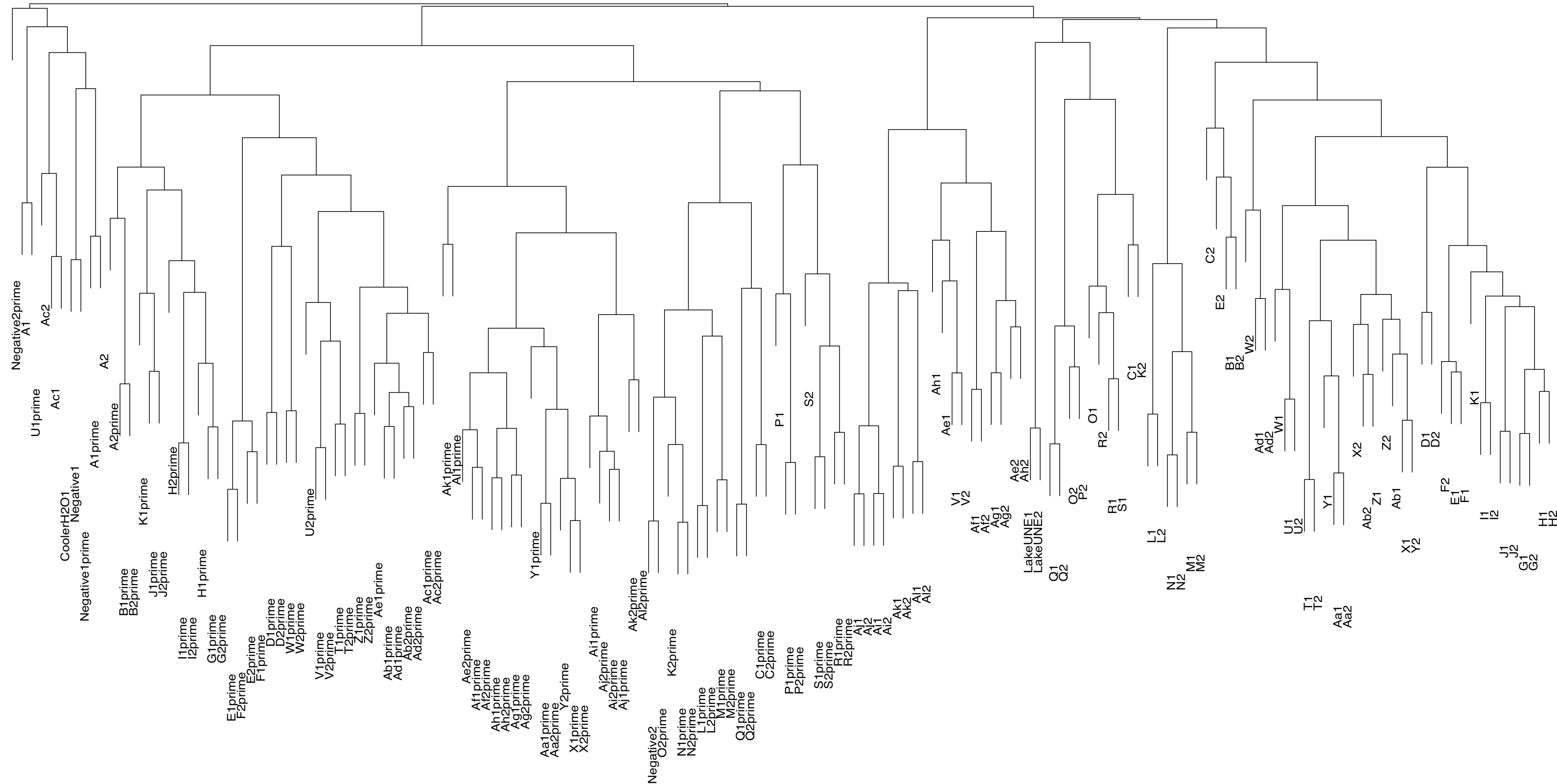


Figure S2 A

Height 0.0 0.2 0.4 0.6 0.8 1.0

β



Height 0.0 0.2 0.4 0.6 0.8

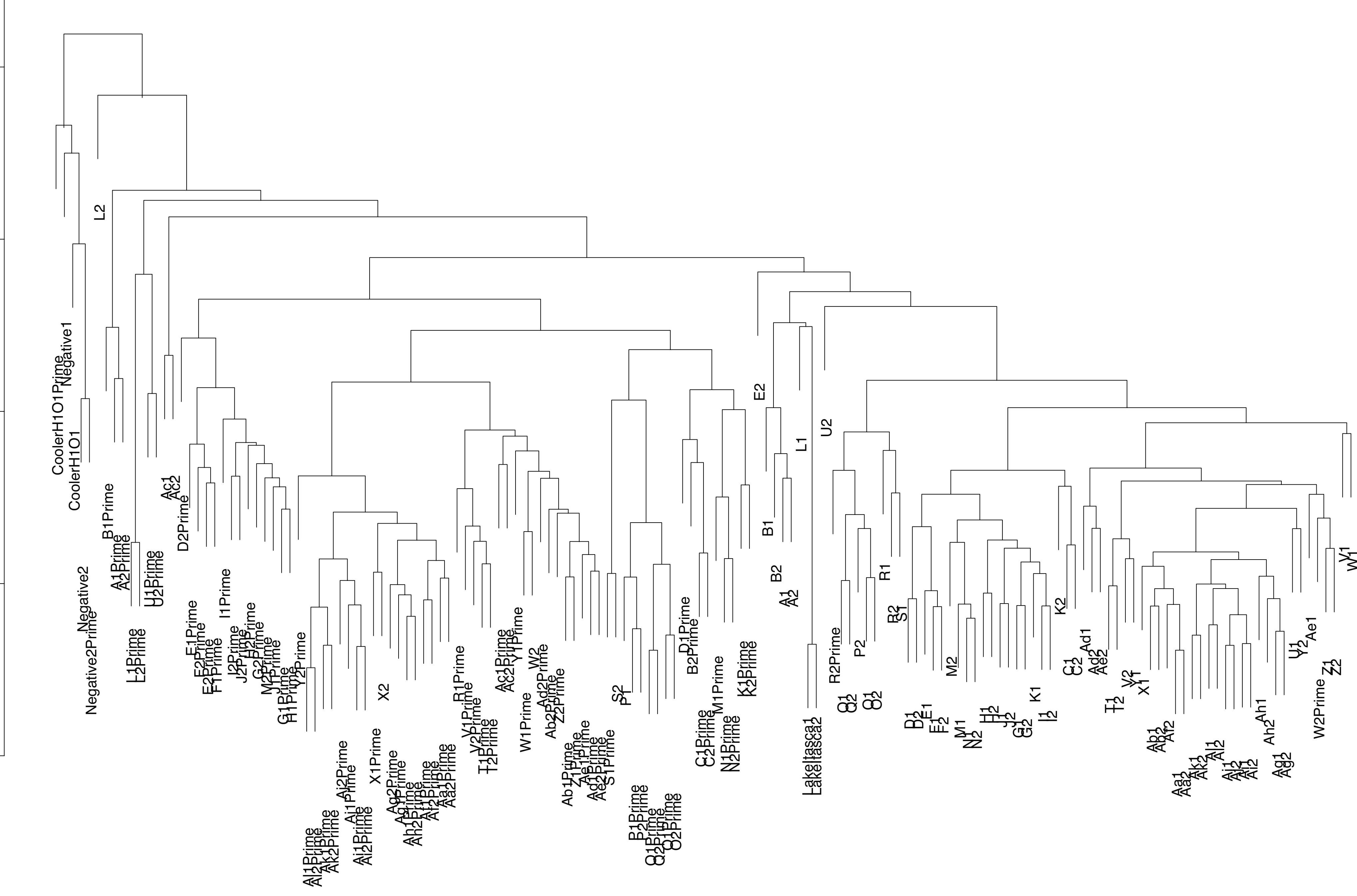
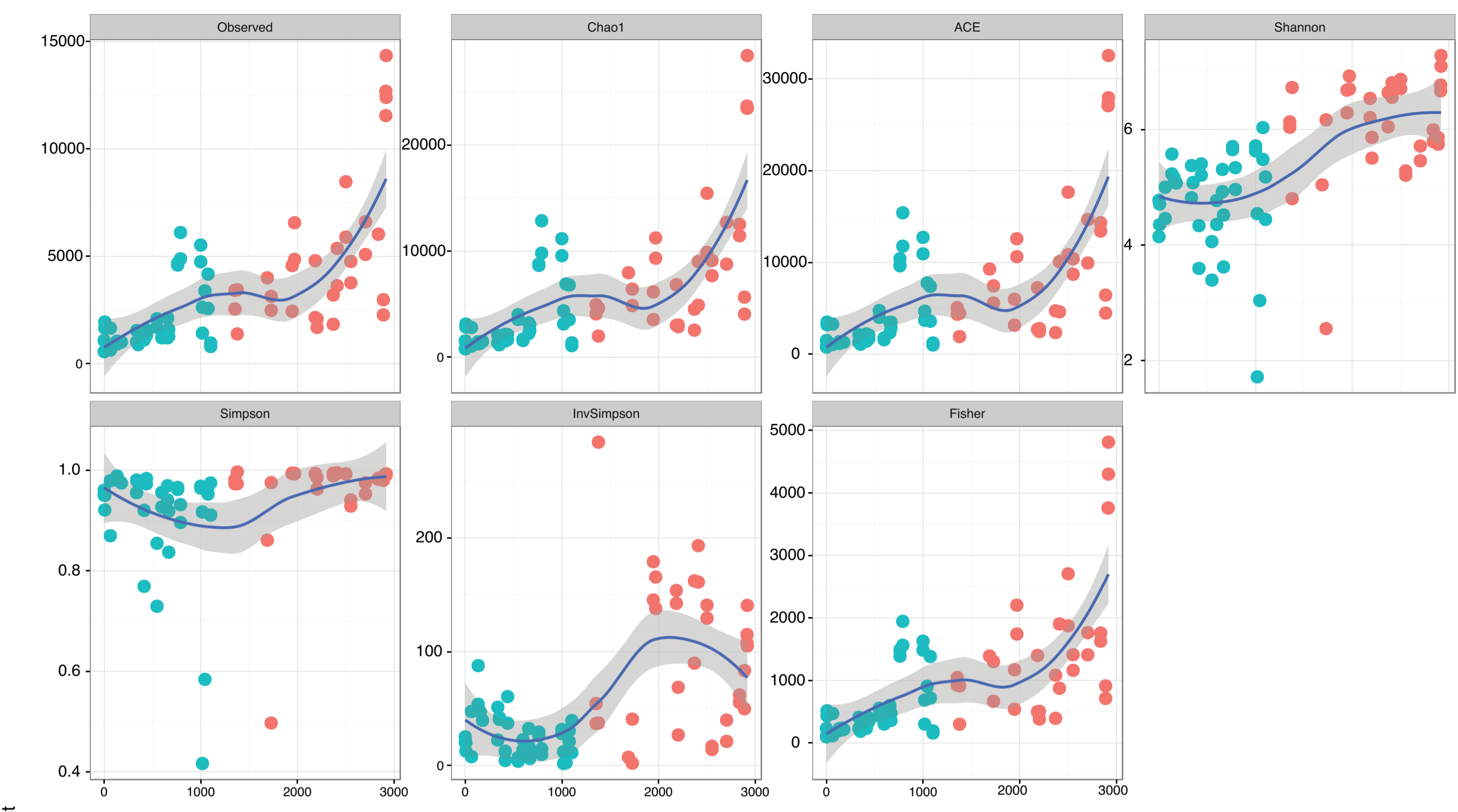
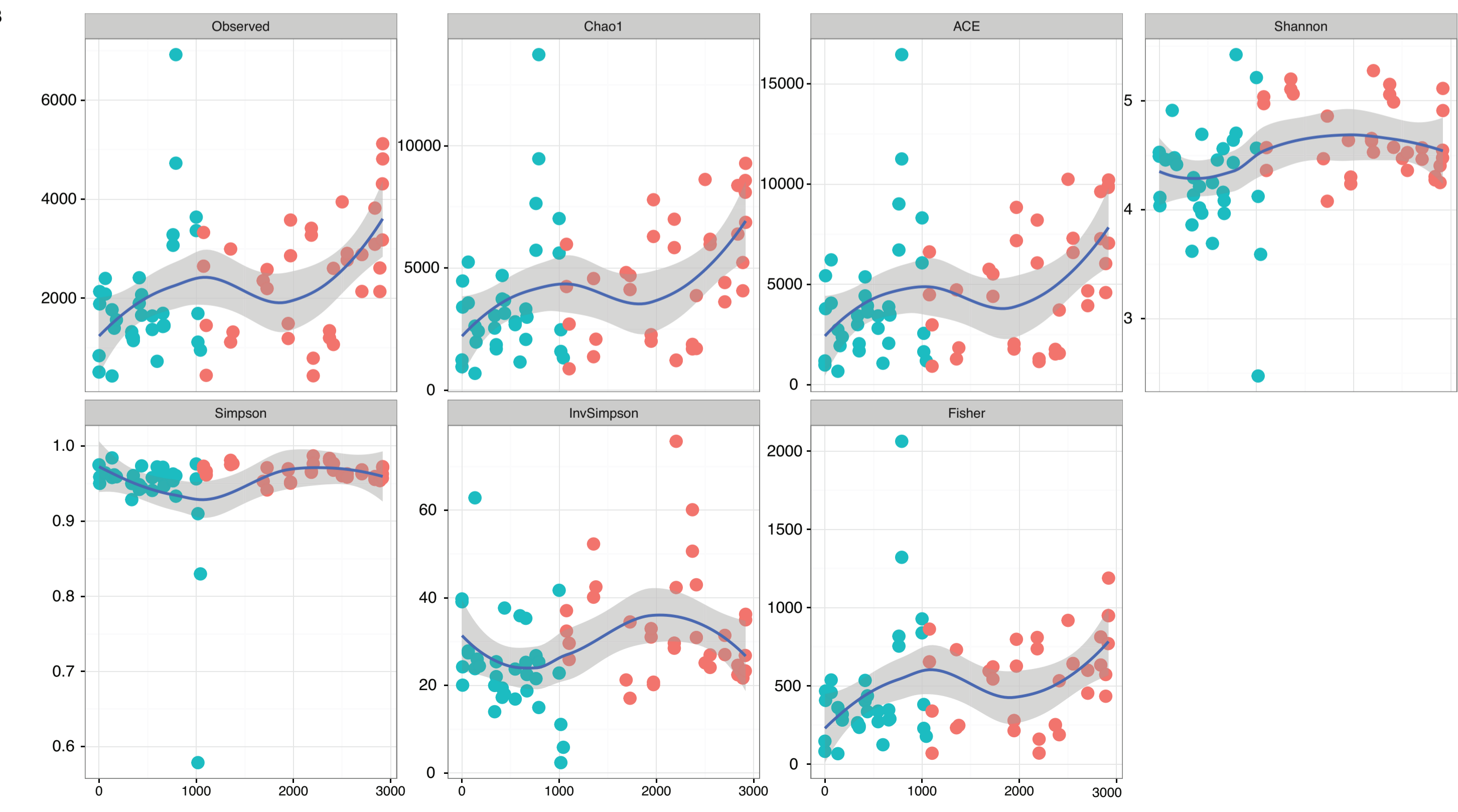


Figure S3

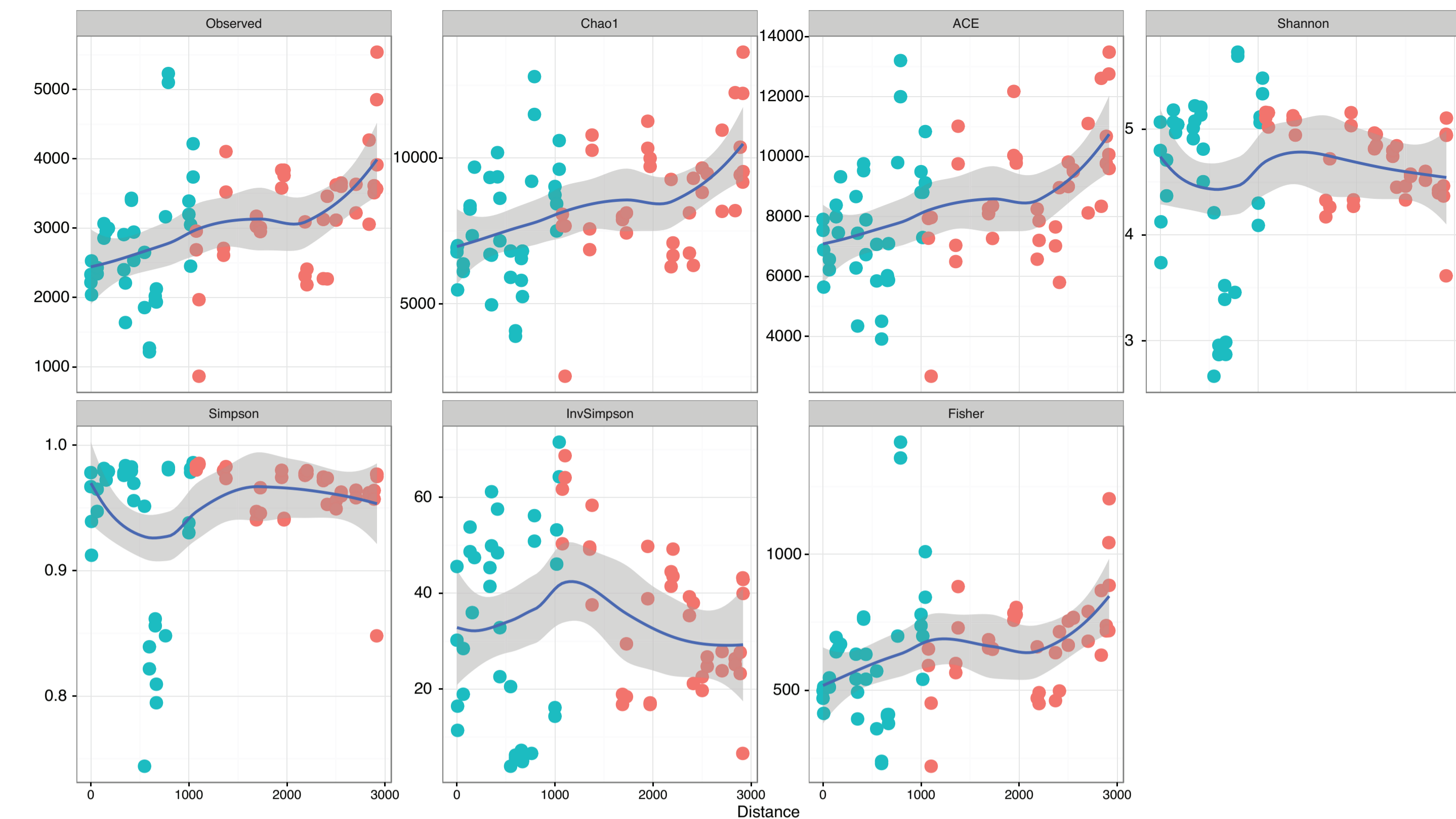
A



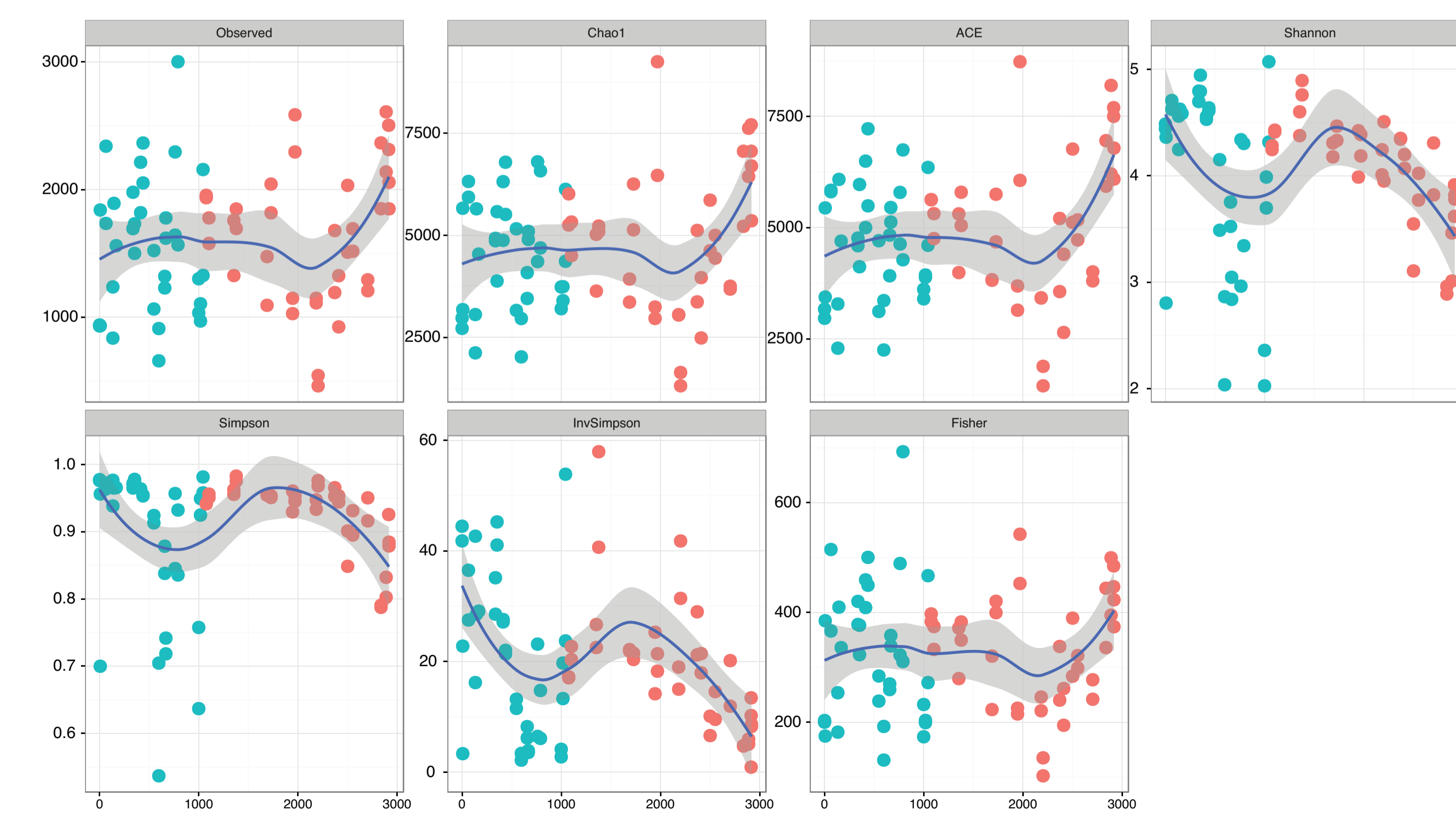
B



C



D



Distance

Figure S4

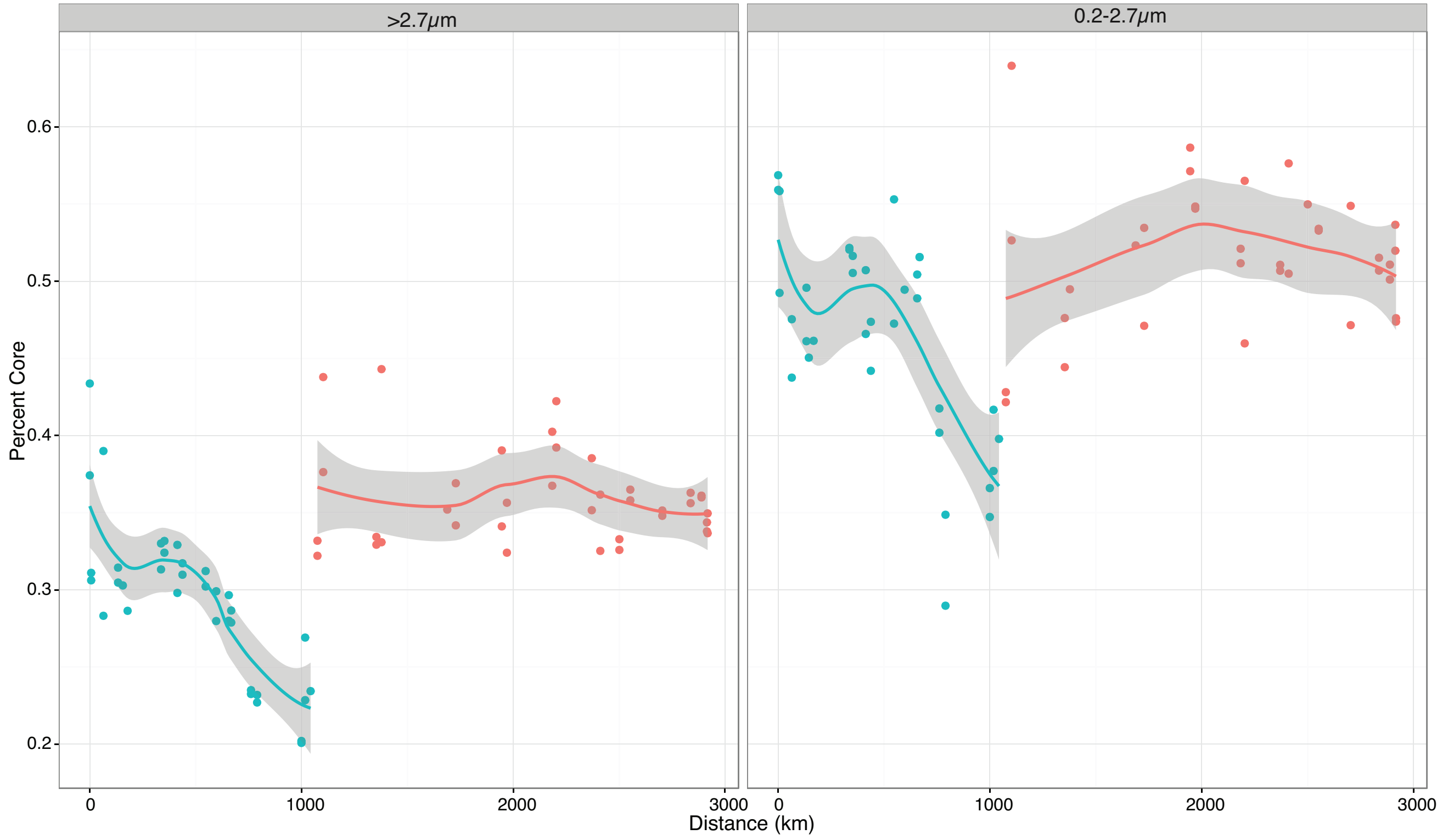
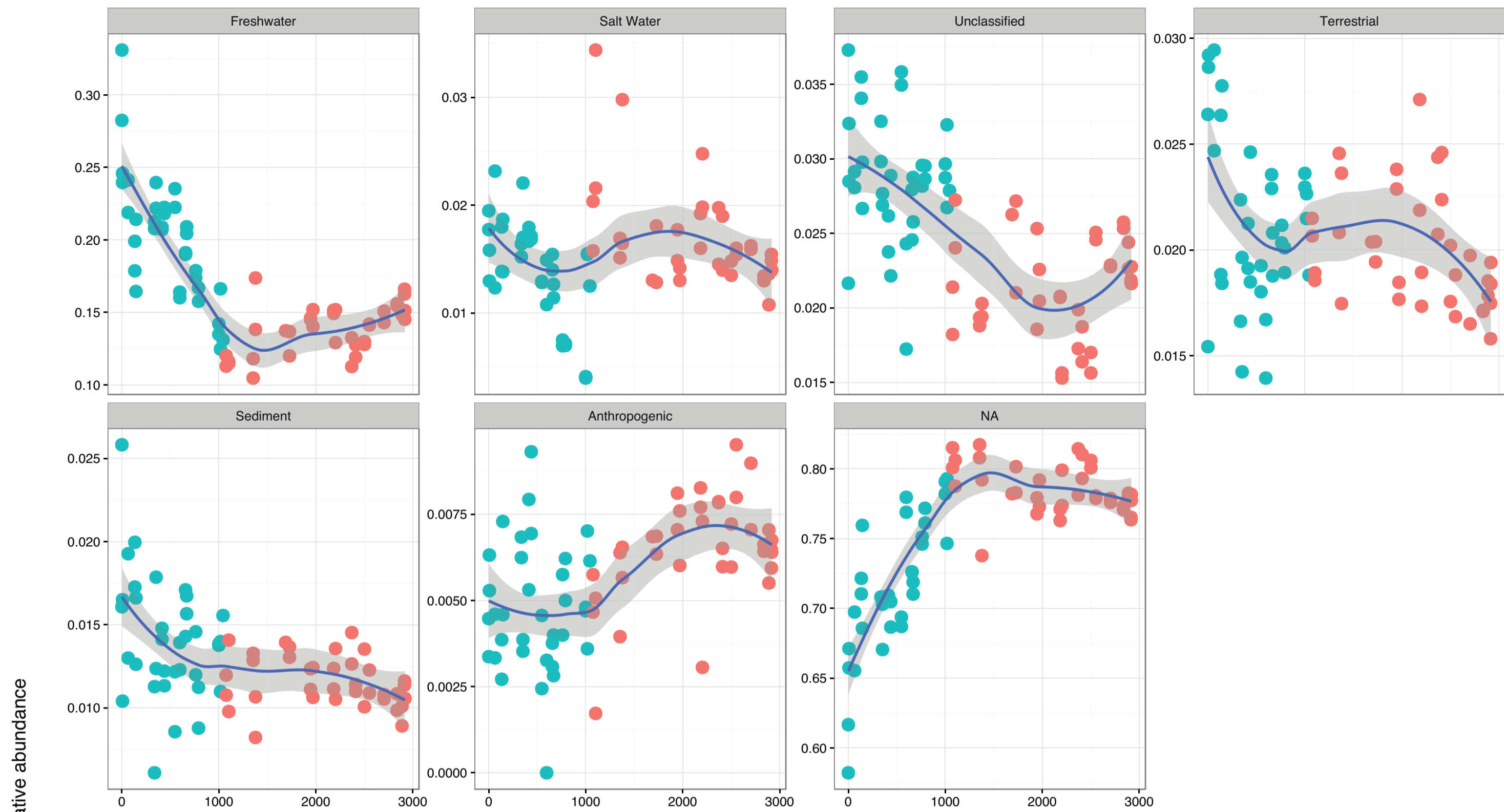
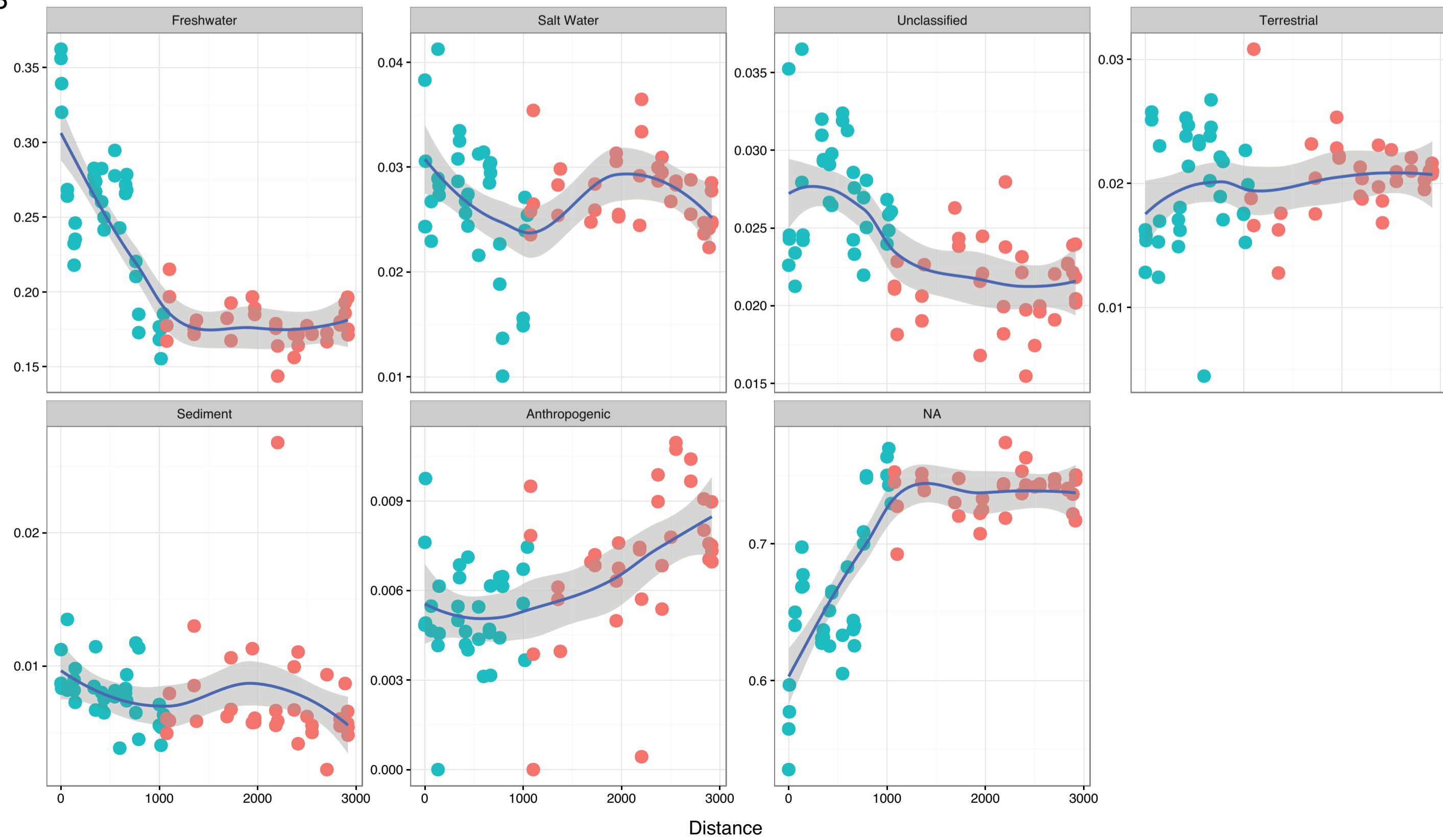


Figure S5 A



B



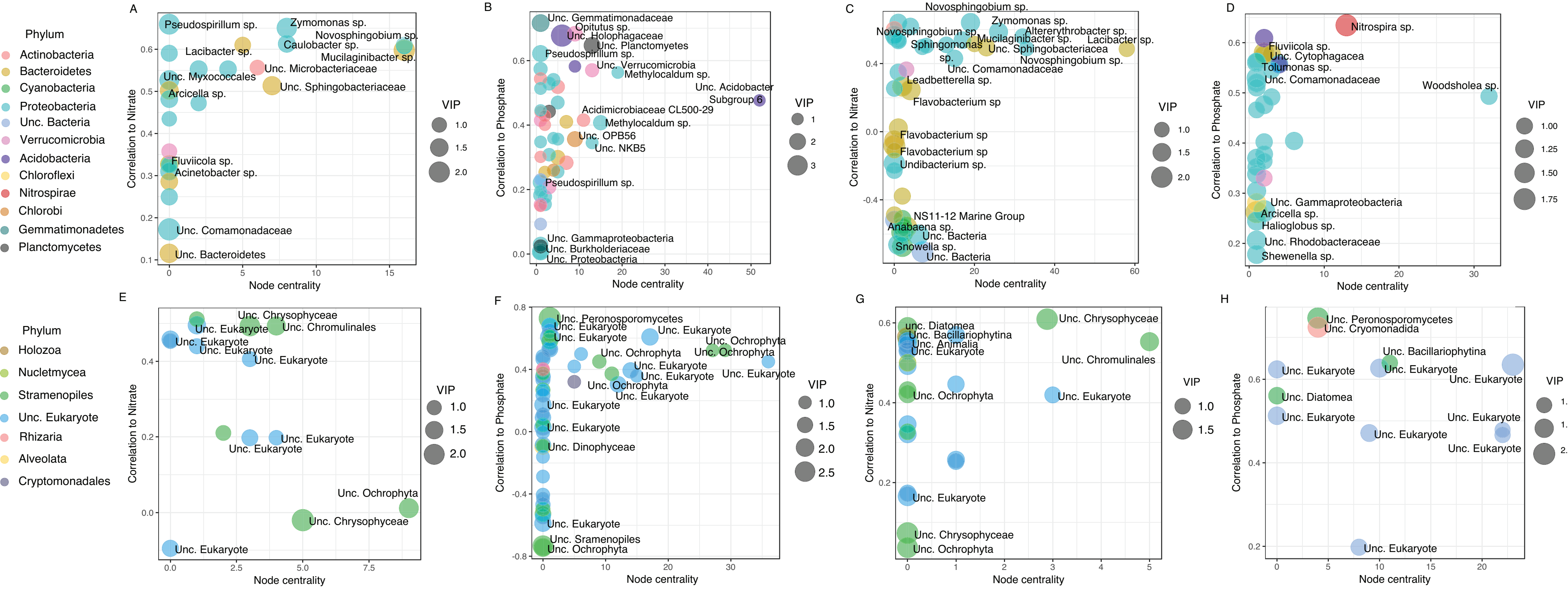
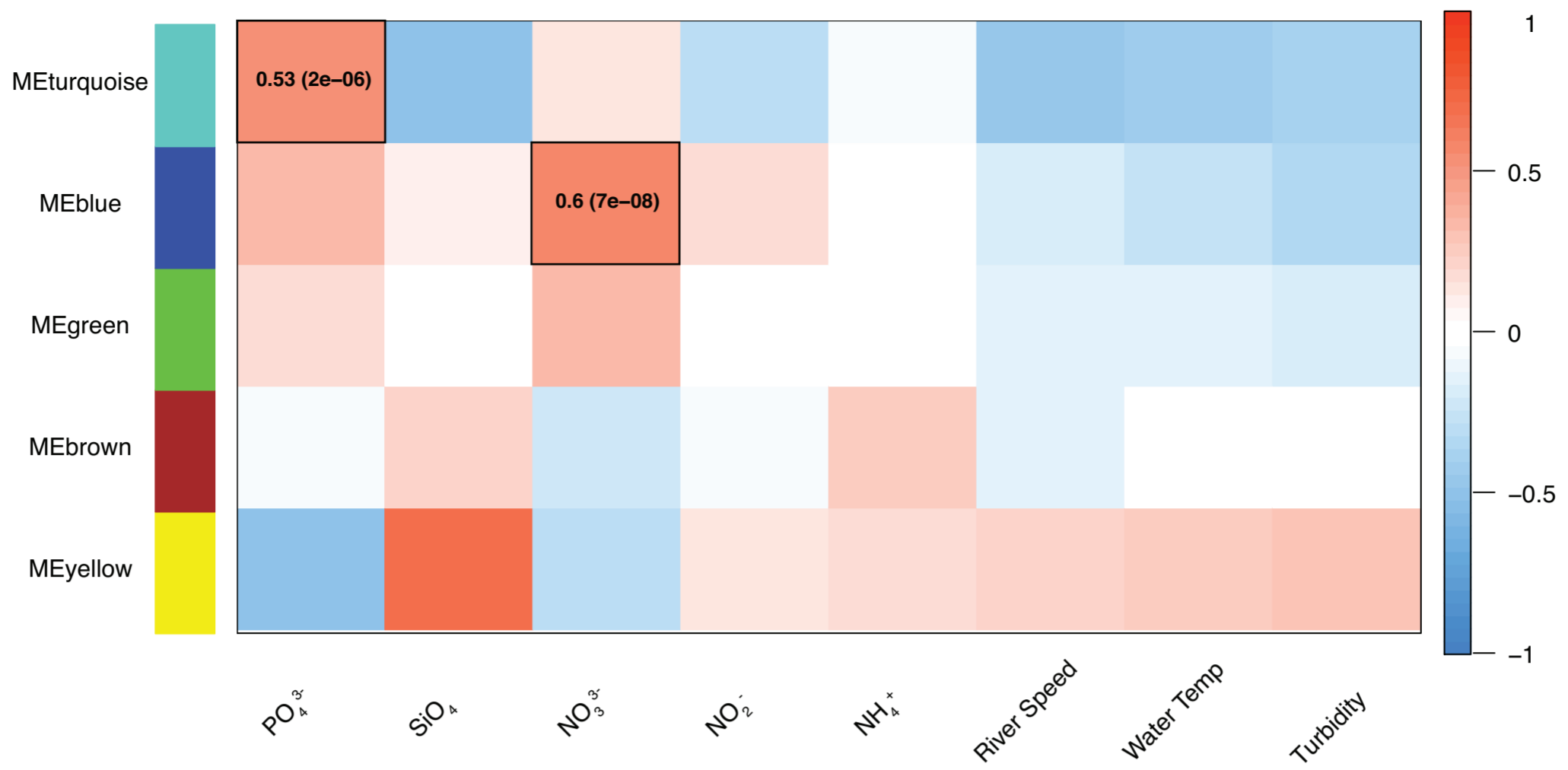
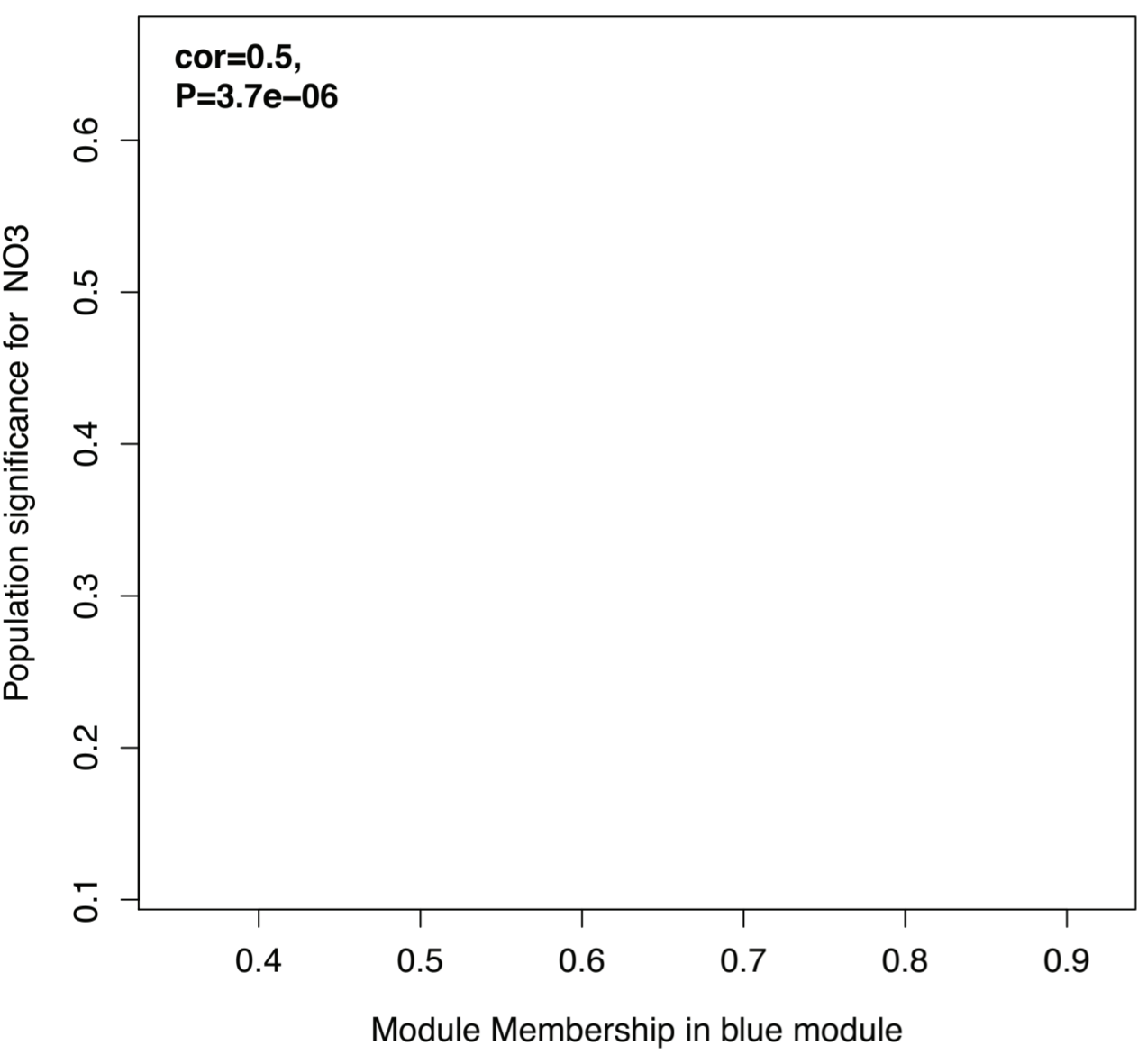


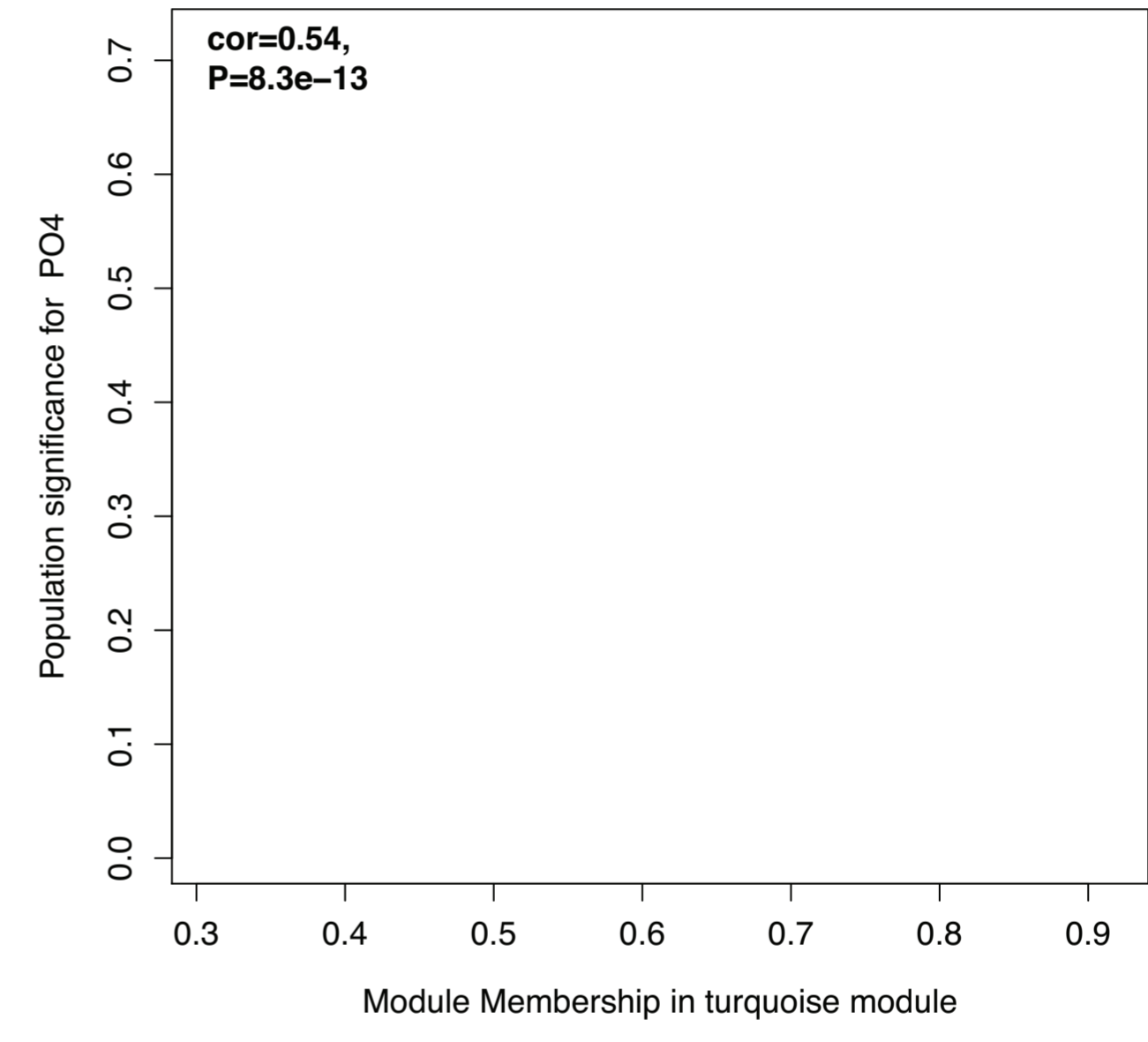
Figure S6 A



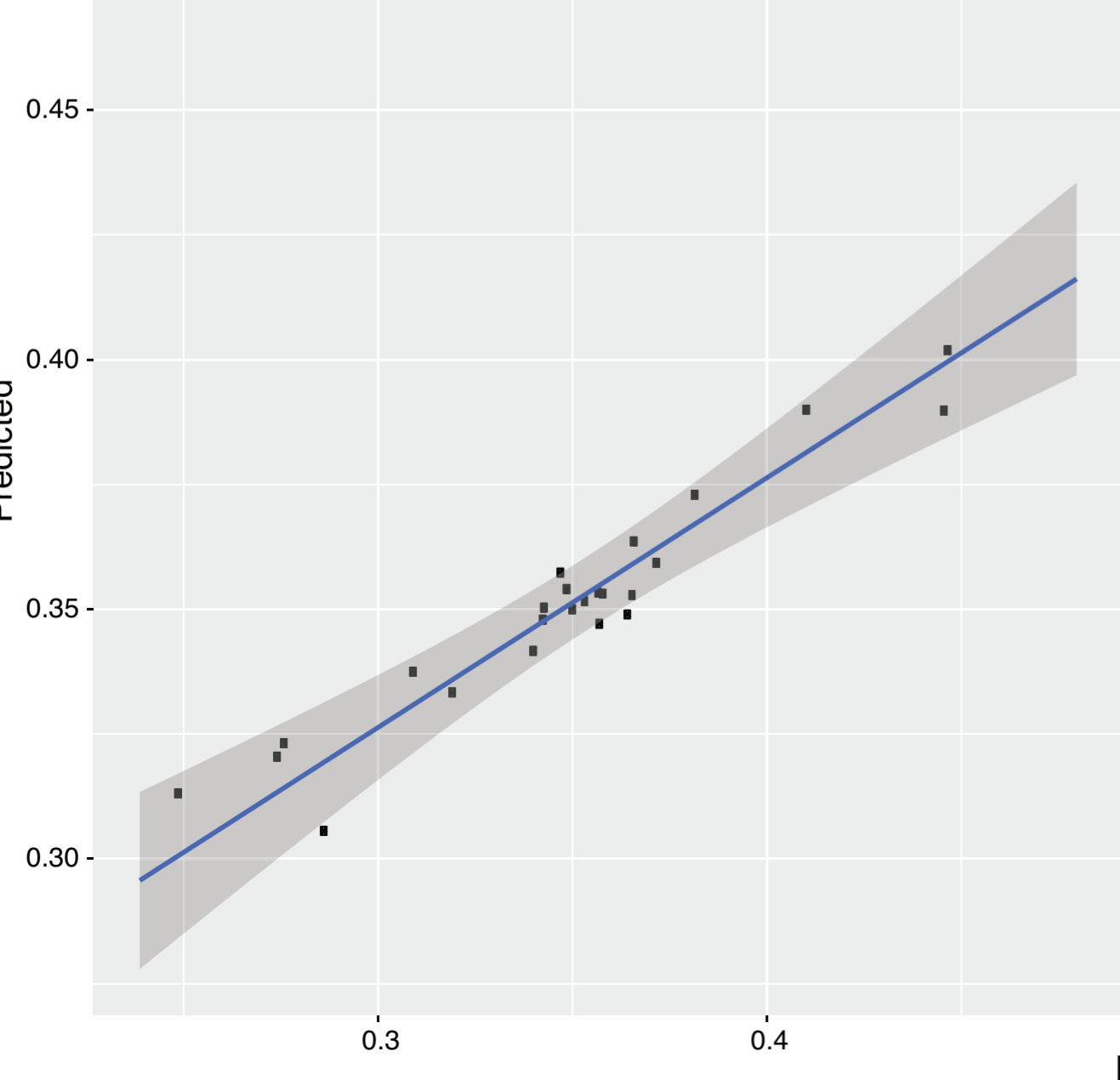
B Module membership vs. population significance



D Module membership vs. population significance



C Comparison of NO_3 measured vs predicted for module blue



E Comparison of PO_4 measured vs predicted for module turquoise

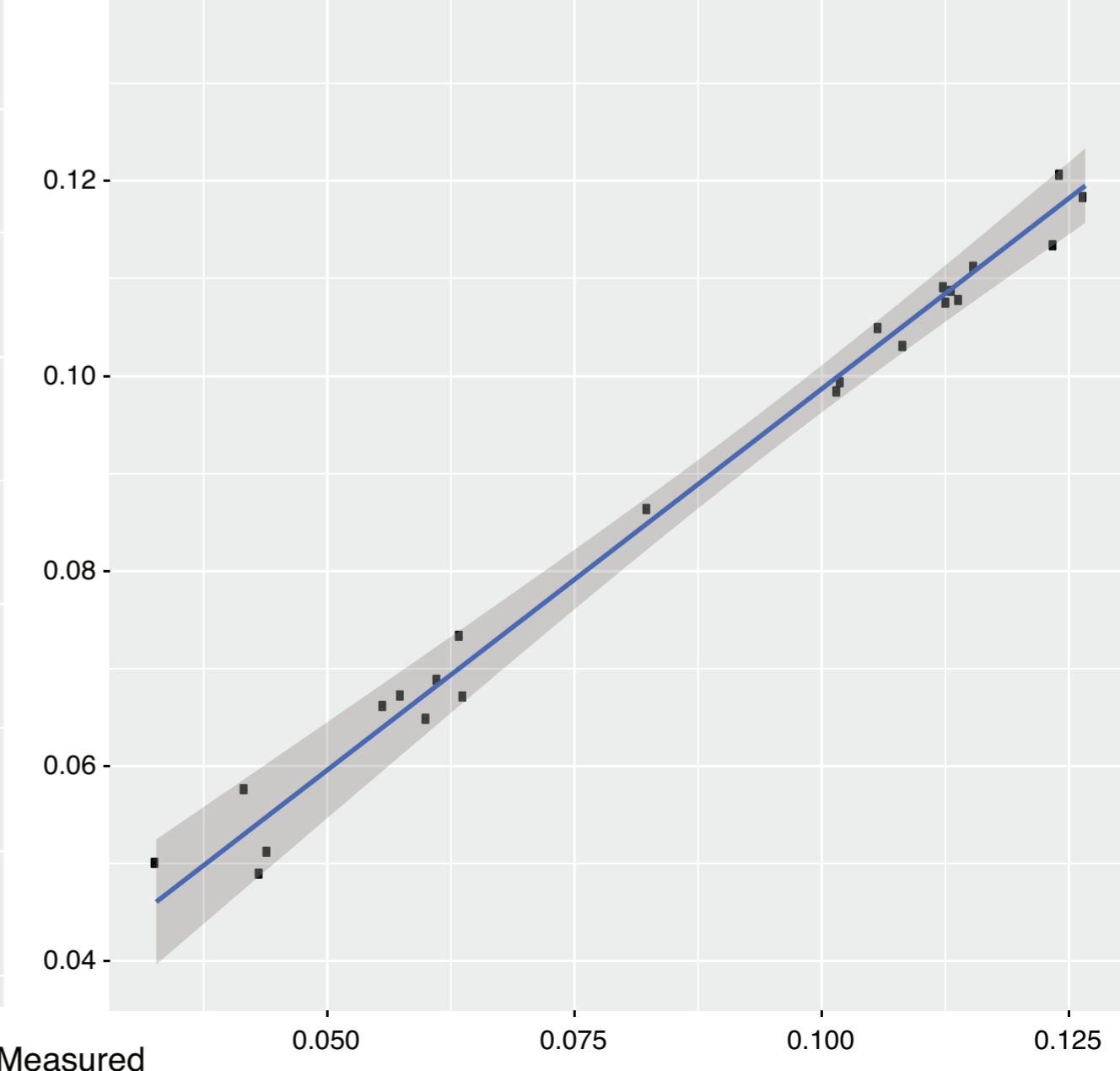
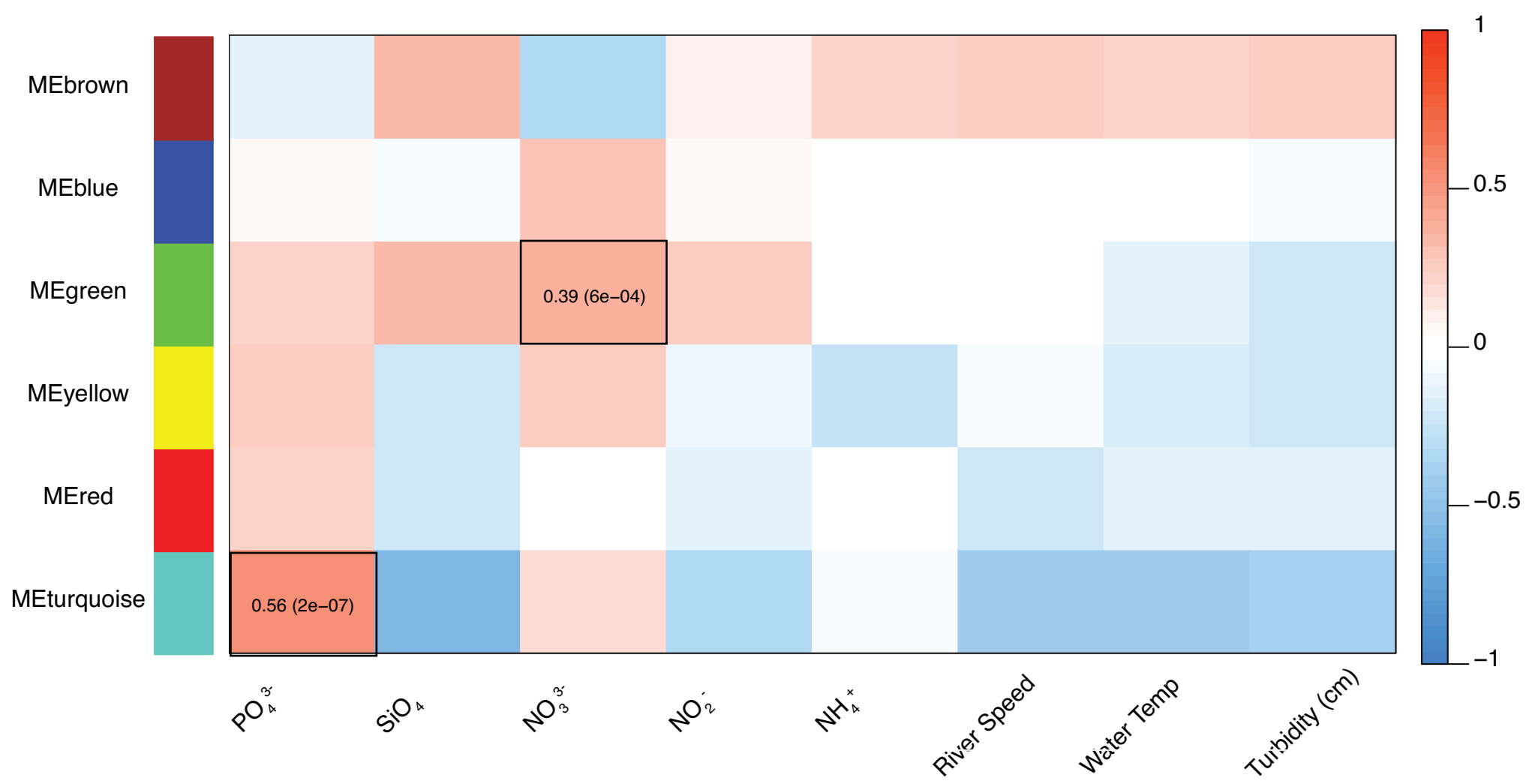
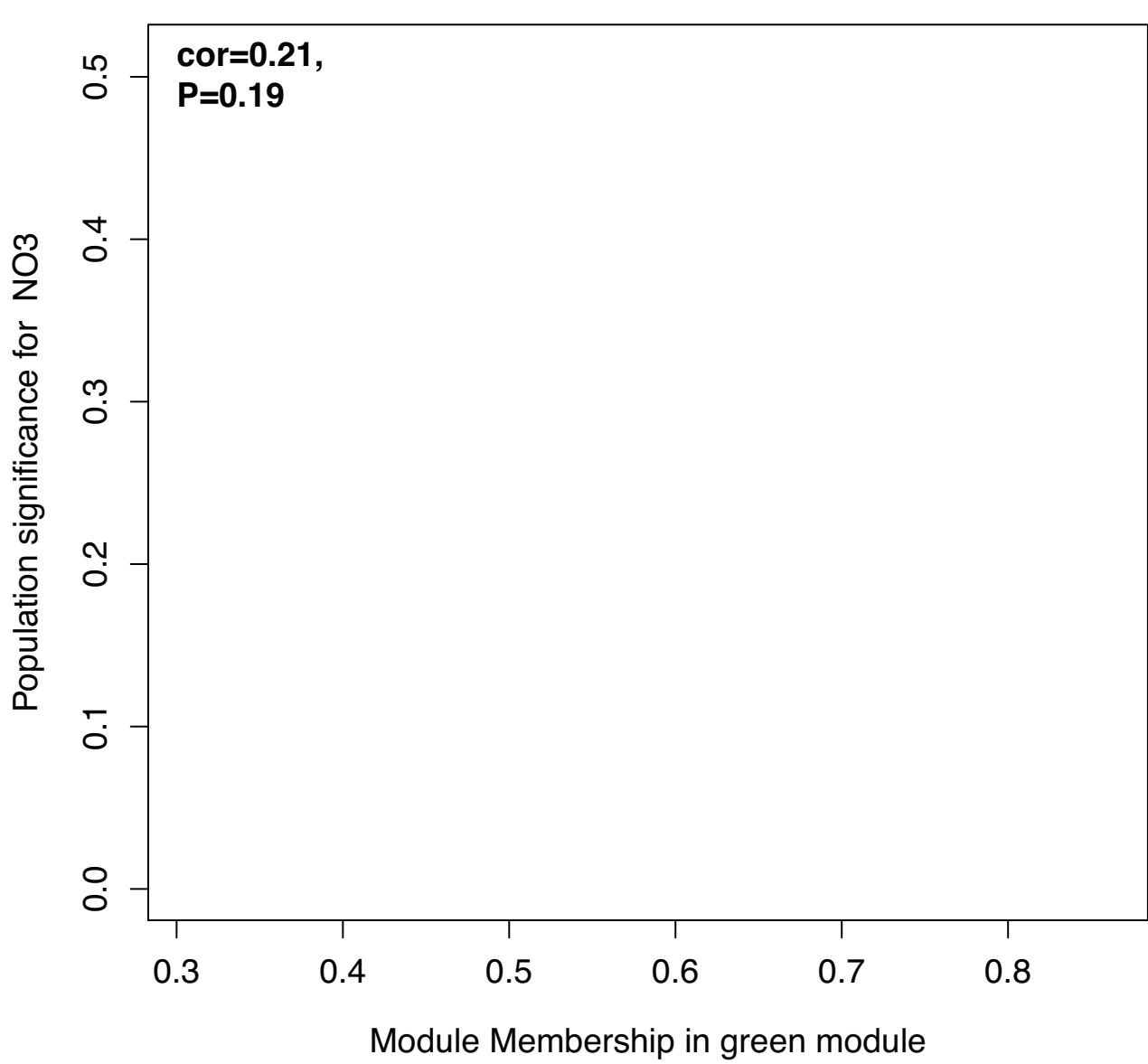


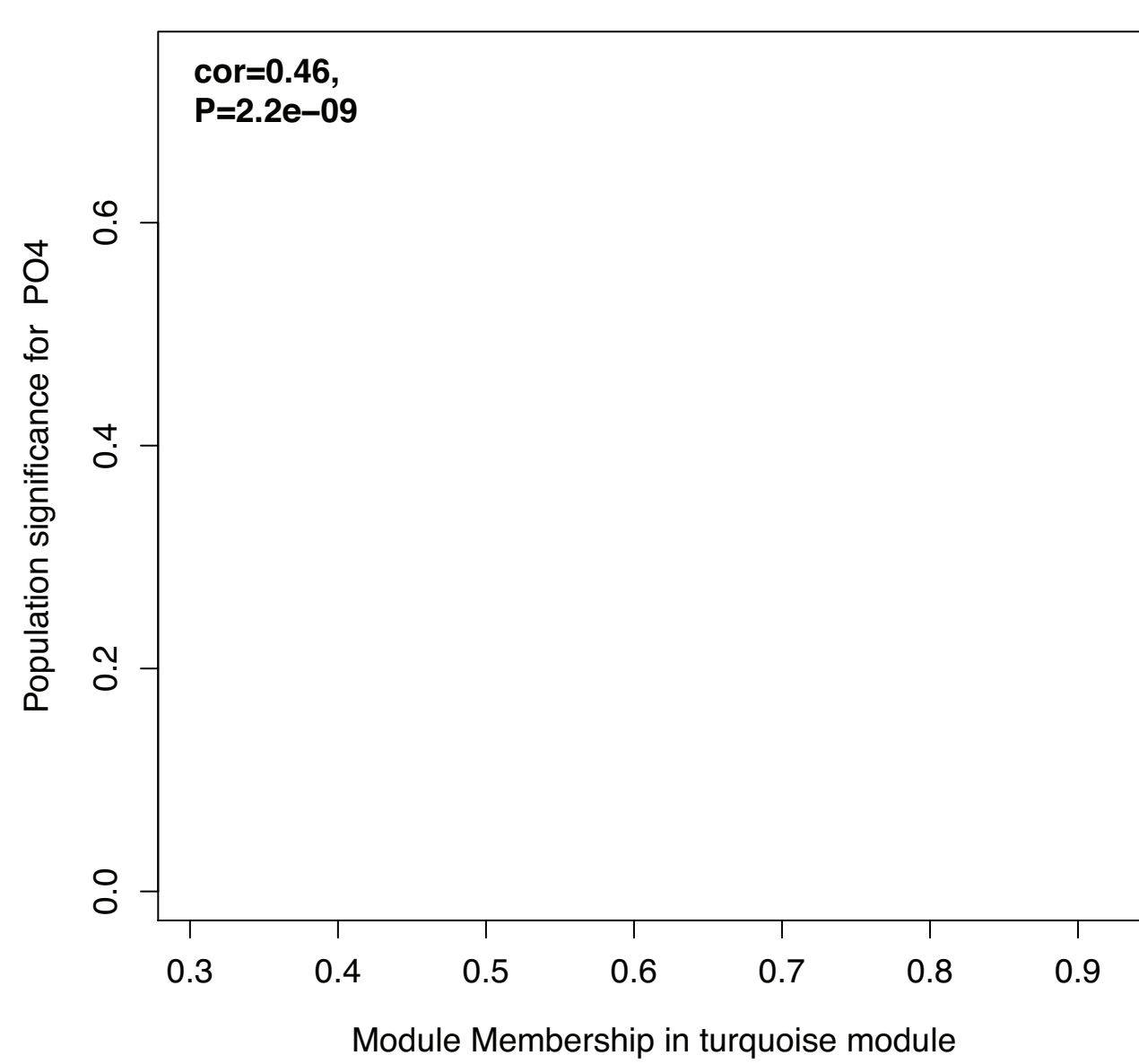
Figure S7 A



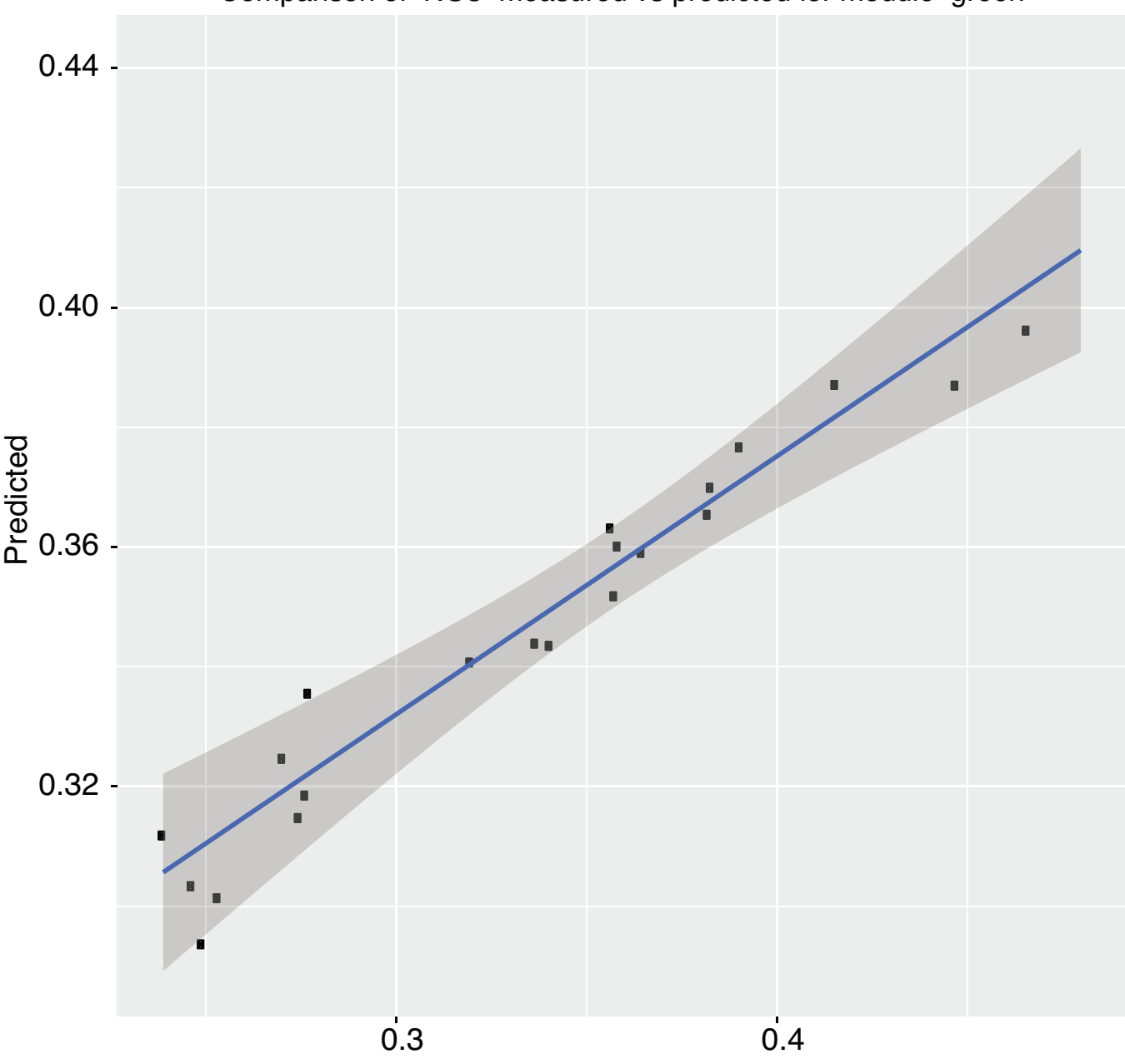
B Module membership vs. population significance



D Module membership vs. population significance



C Comparison of NO_3 measured vs predicted for module green



E Comparison of PO_4 measured vs predicted for module turquoise

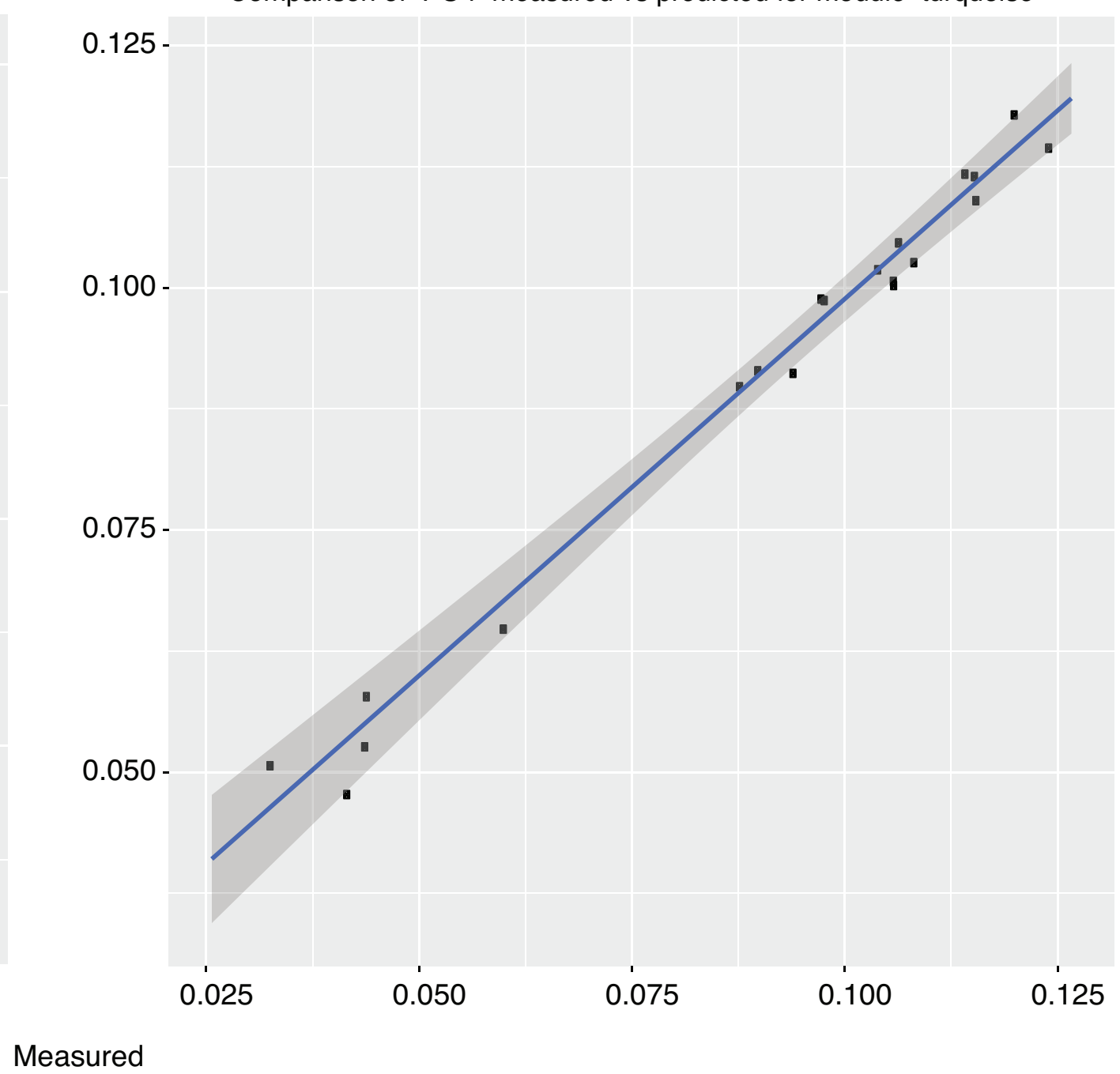
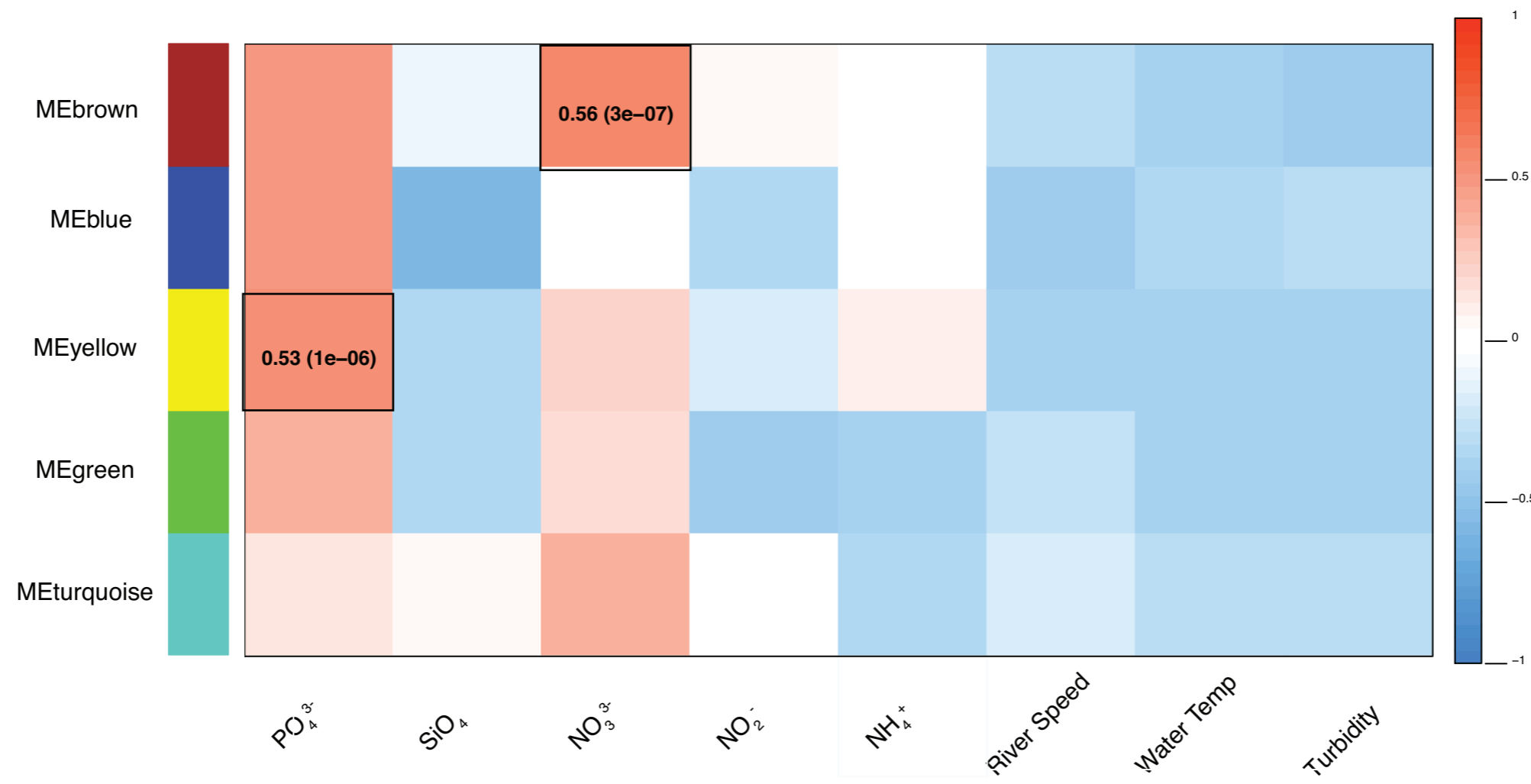
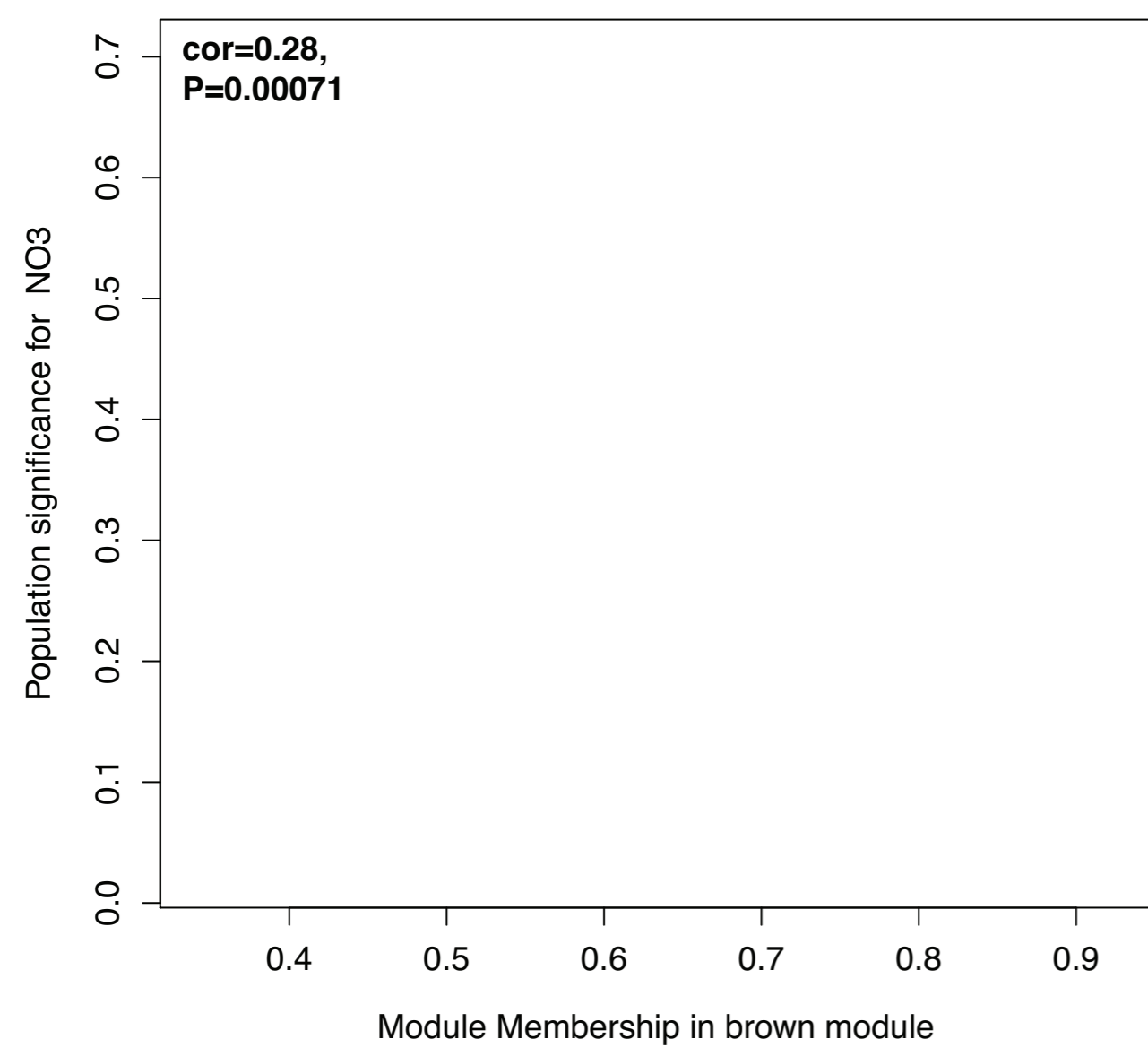


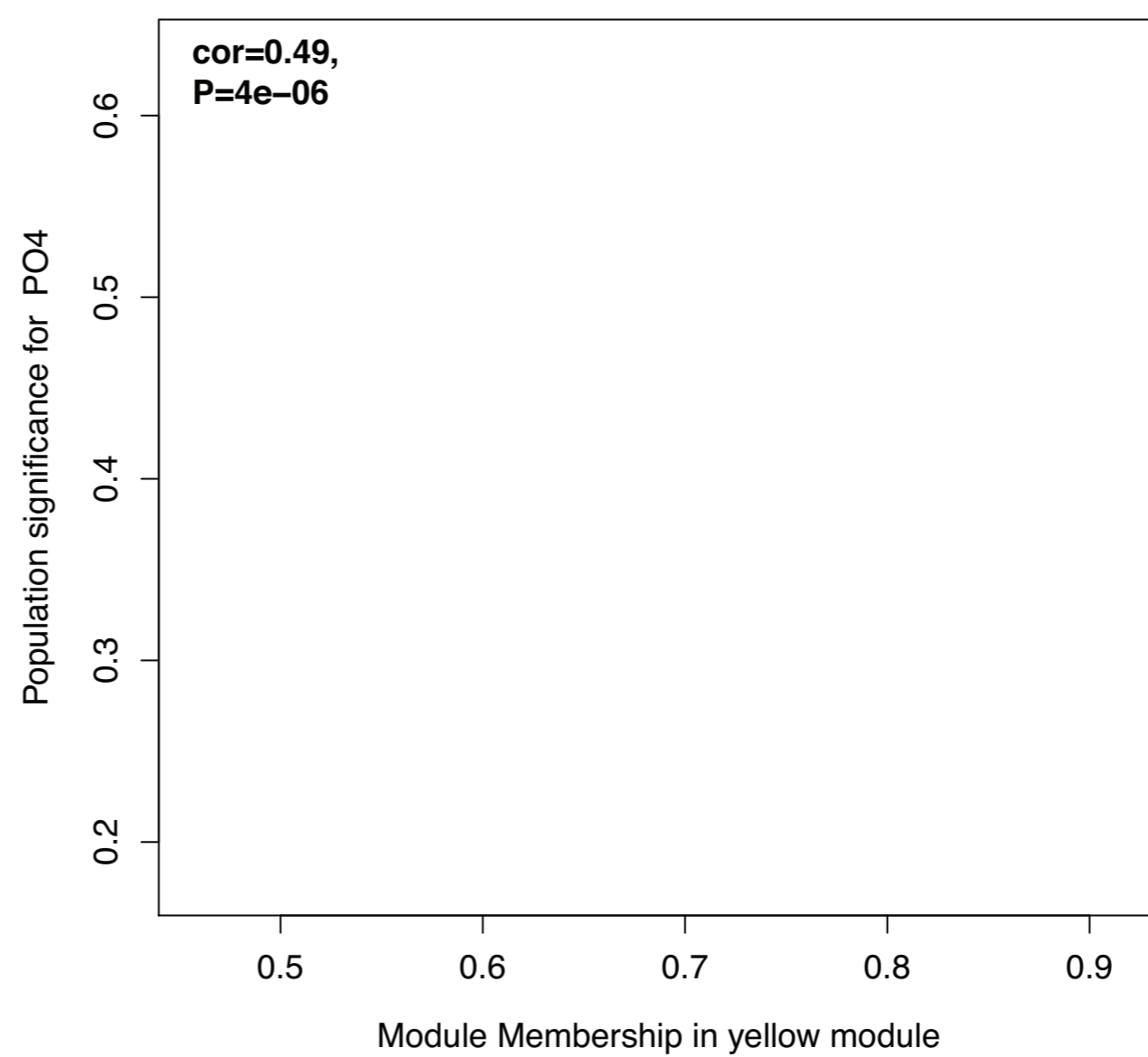
Figure S8 A



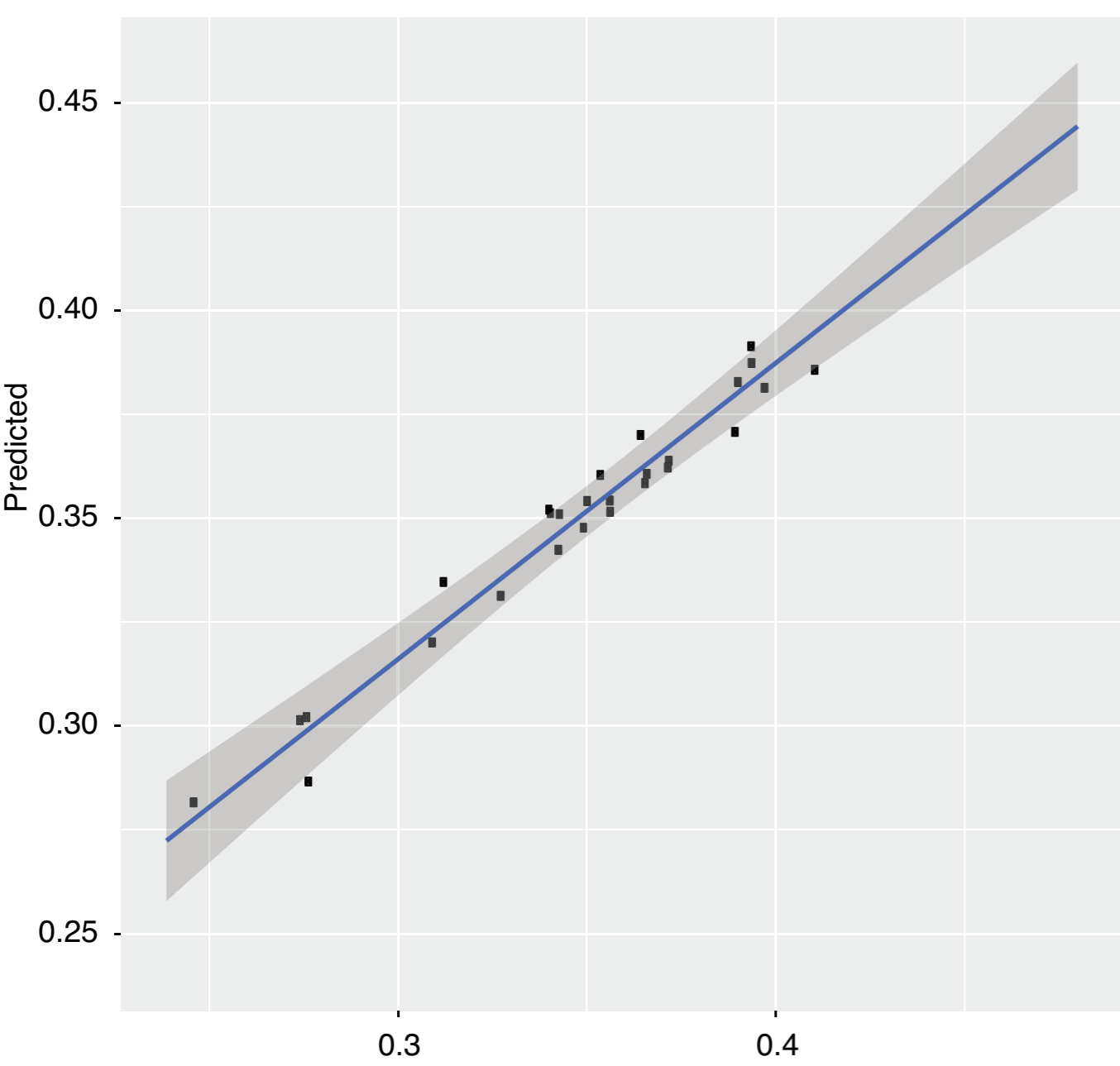
B Module membership vs. population significance



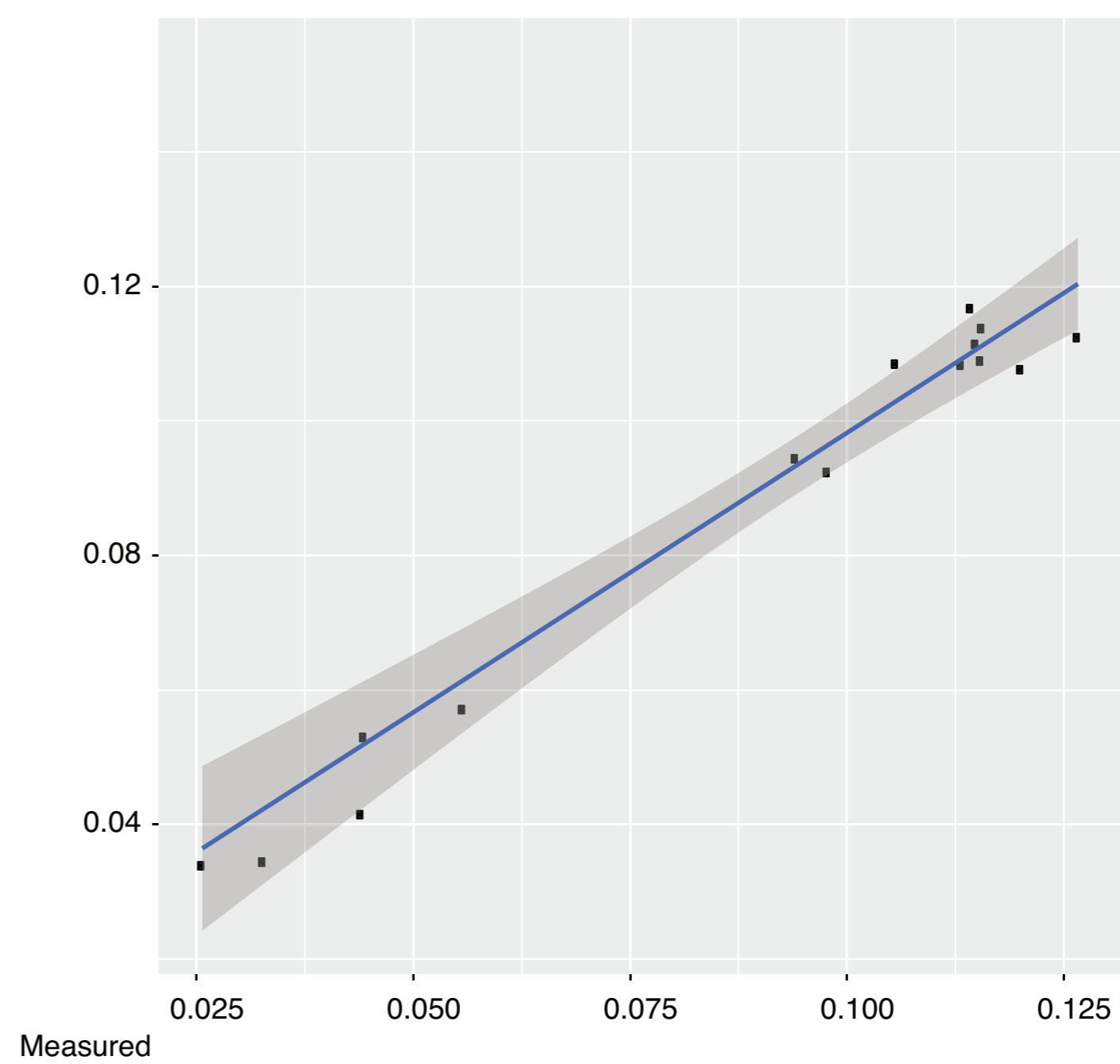
D Module membership vs. population significance

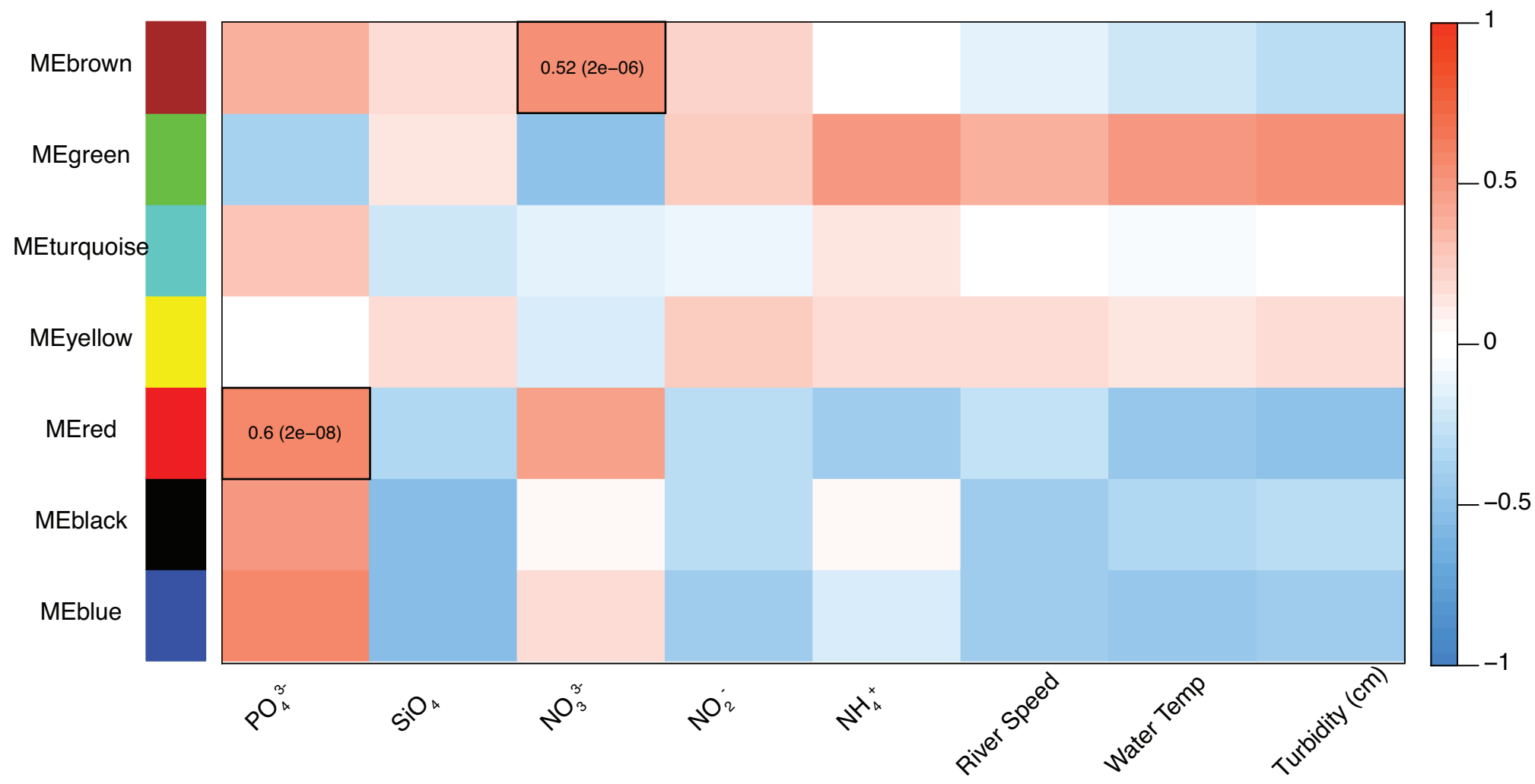


C Comparison of NO₃ measured vs predicted for module brown

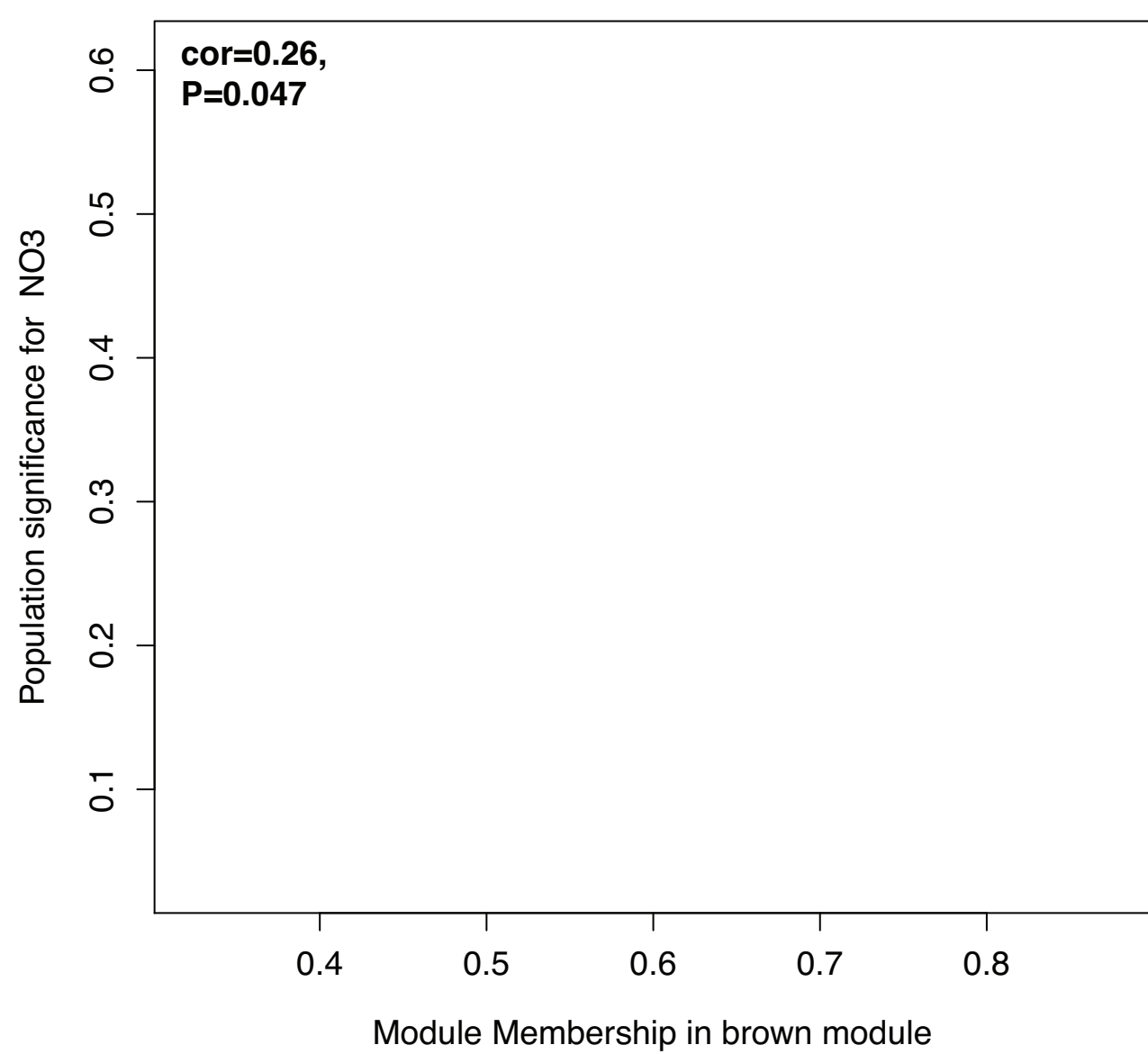


E Comparison of PO₄ measured vs. predicted for module yellow

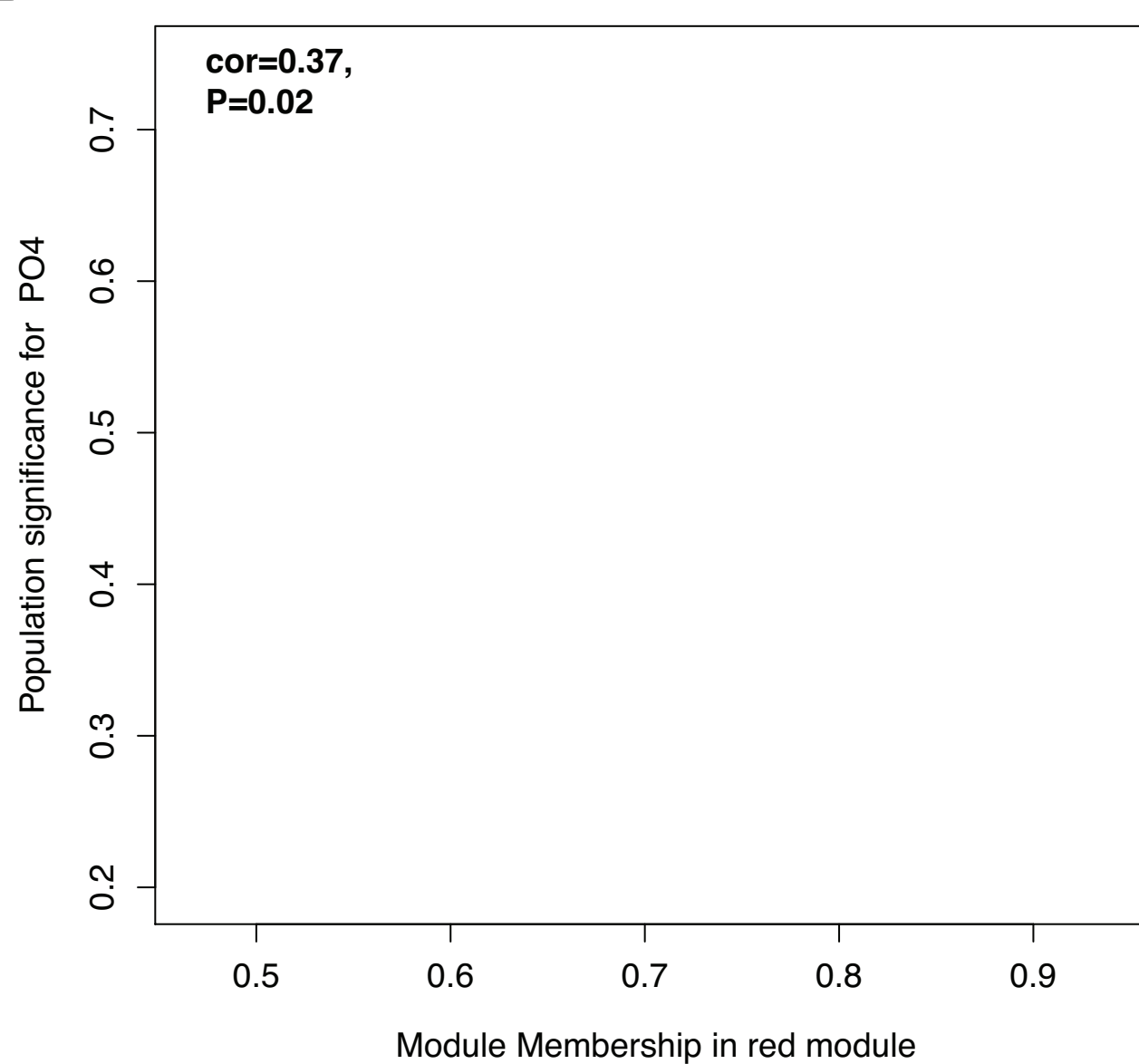
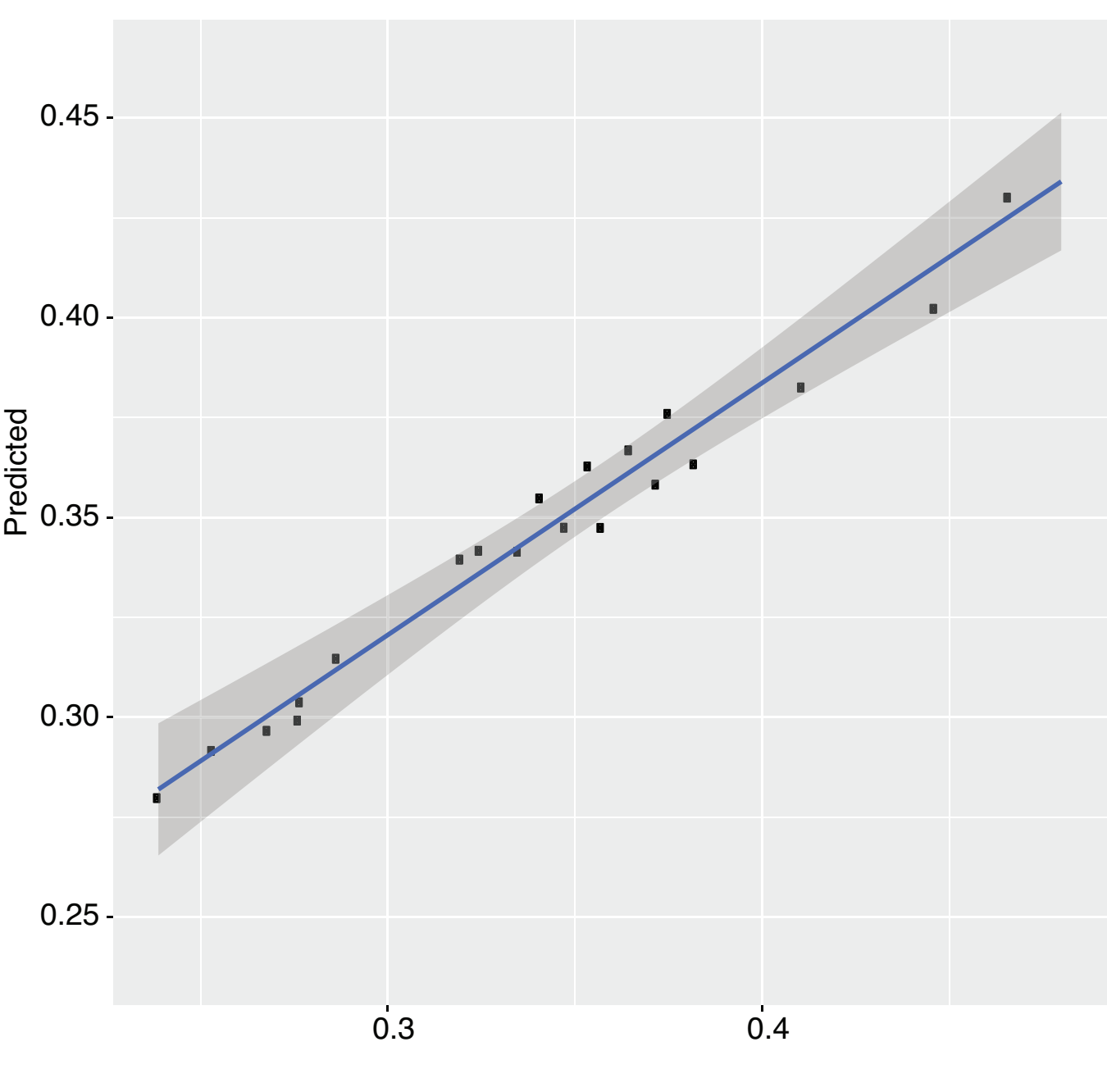




B Module membership vs. population significance



D Module membership vs. population significance

C Comparison of NO_3 measured vs predicted for module brownE Comparison of PO_4 measured vs predicted for module red