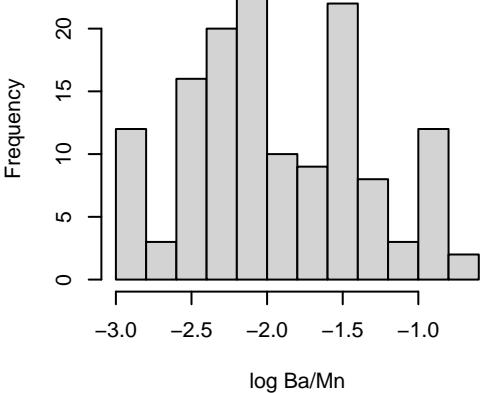
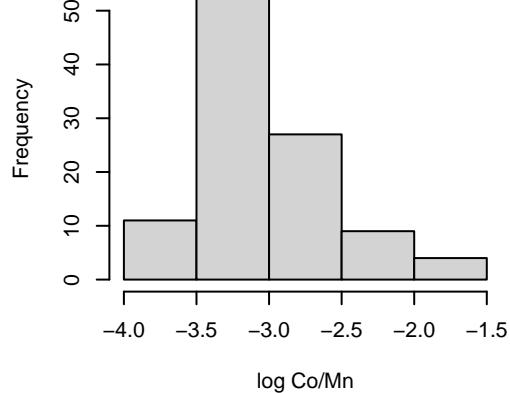


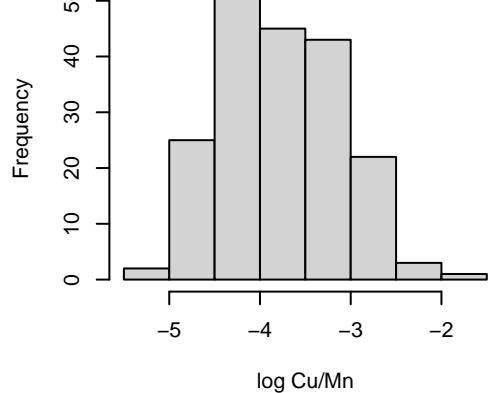
**W = 0.9713, p = 0.004555**



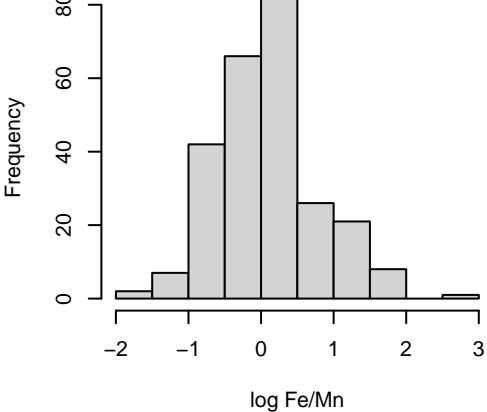
**W = 0.9132, p = 3.231e-06**



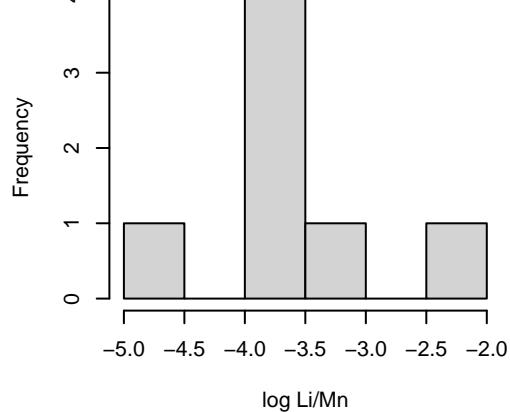
**W = 0.983, p = 0.01857**



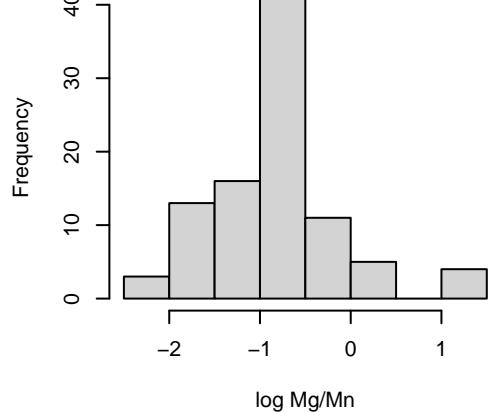
**W = 0.9852, p = 0.009441**



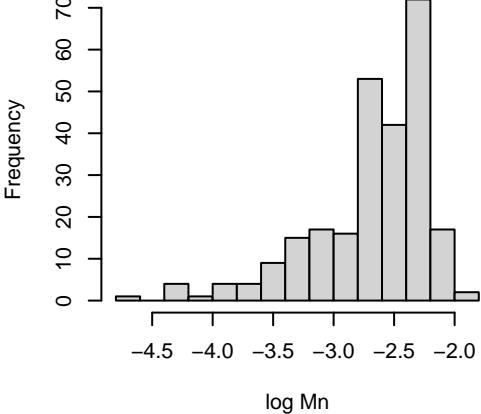
**W = 0.9313, p = 0.5624**



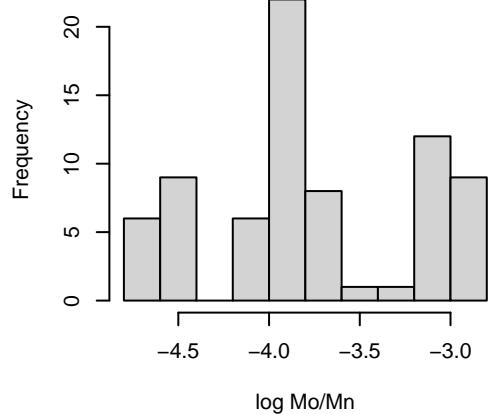
**W = 0.9179, p = 2.111e-05**



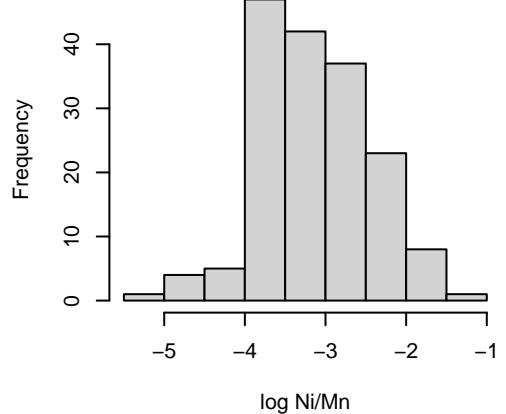
**W = 0.8778, p = 1.722e-13**



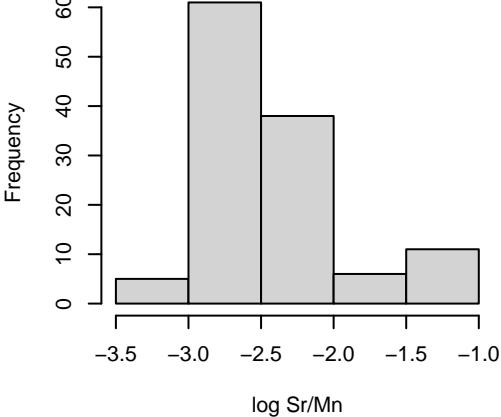
**W = 0.9172, p = 0.0001302**



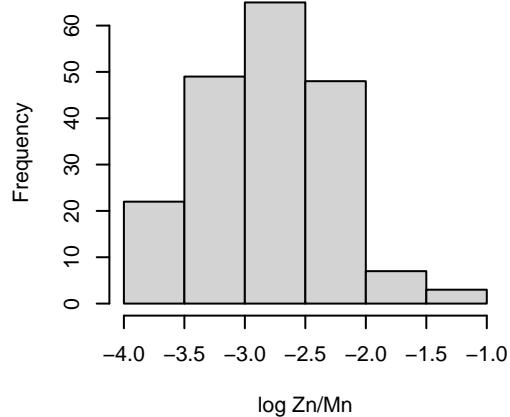
**W = 0.9737, p = 0.002757**



**W = 0.9144, p = 1.06e-06**



**W = 0.9853, p = 0.041**



Supplementary Figure 4.  
Shapiro-Wilk test for the log normal distribution of moles per kg Mn and trace elements (Ba, Co, Cu, Fe, Li, Mg, Mo, Ni, Sr, Zn) normalized to Mn in freshwater Mn-(oxyhydr)oxides. W values above 0.9 are indicative of a log normal distribution and p-values less than 0.05 indicate the null hypothesis can be rejected.