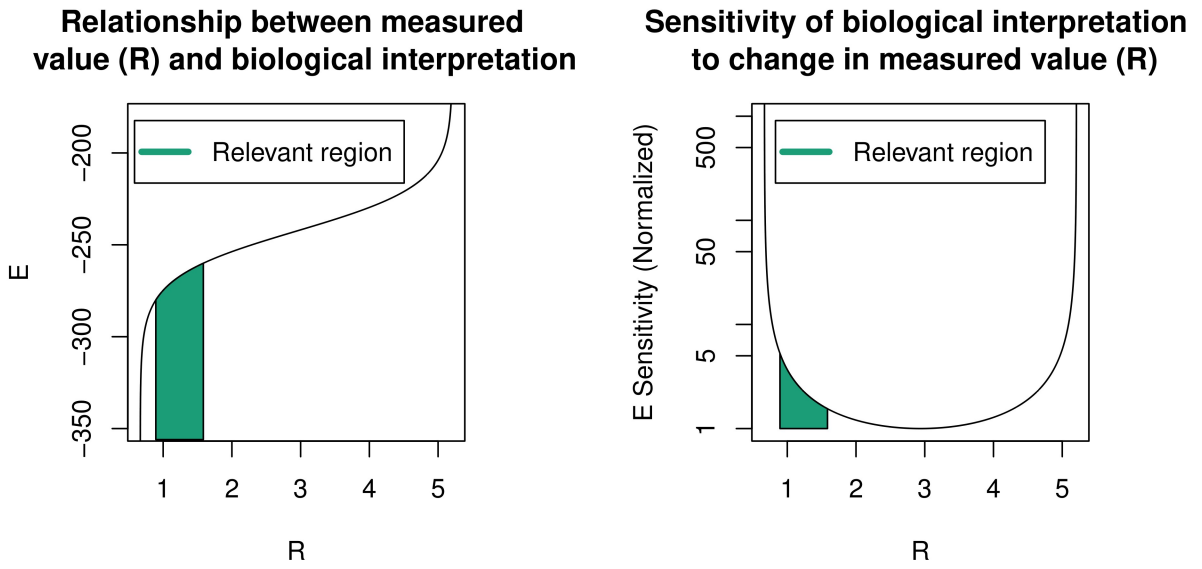
Errors within biologically meaningful errors in R

The following is assuming that the "biologically relevant region" is between -260 and -280:

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## [1] "The biologically relevant values of R range from 0.8937 to 1.5849"
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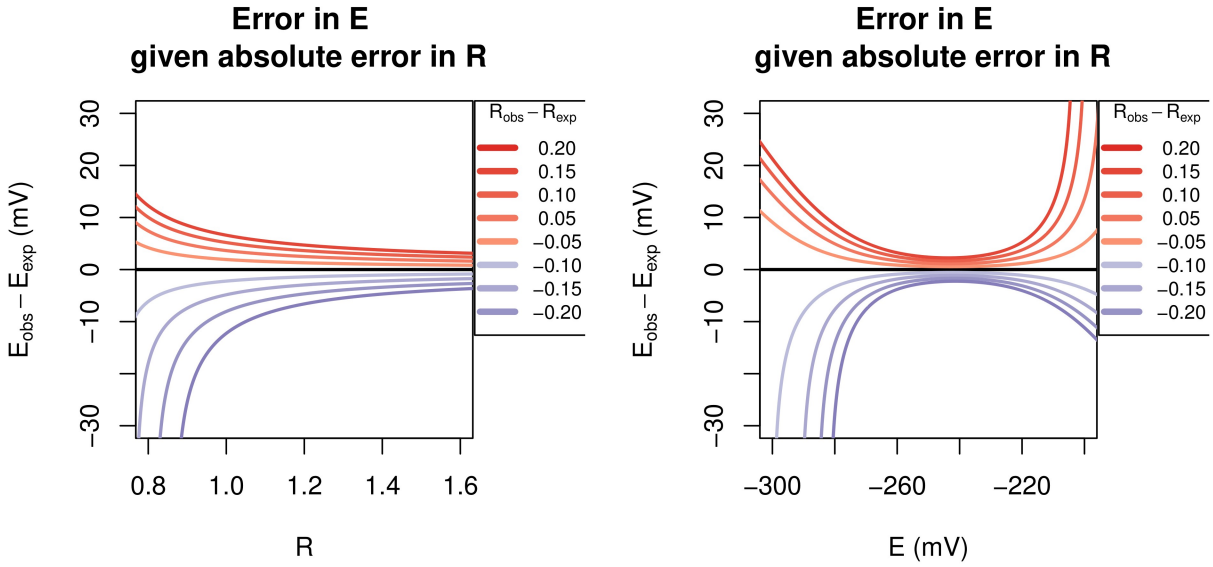
Based roughly on the response to reviewers, 95% confidence intervals in R seem to be on the order of ~0.1. With that level of accuracy, how much error in R can we expect?



Using the model above, a redox value between -268 mV and -271 mV with an error in R of +/-0.1 should have an average error in E of 2.69, consistent with the observed confidence intervals. However, the variation between individuals of up to 12mv could be explained by errors in R around +/-0.5.