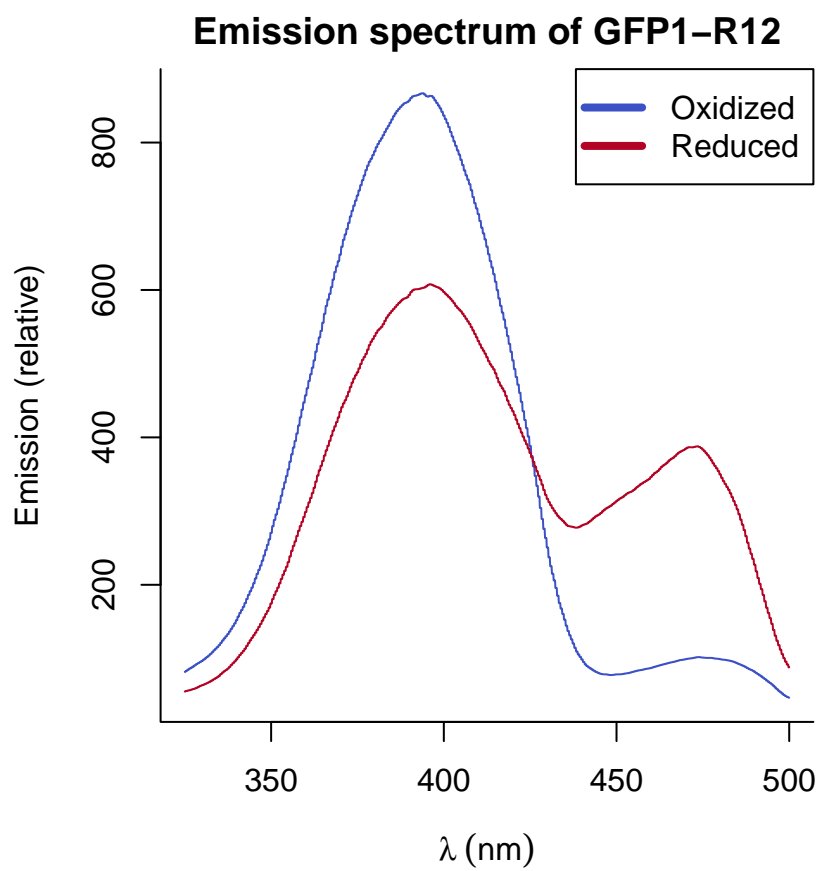
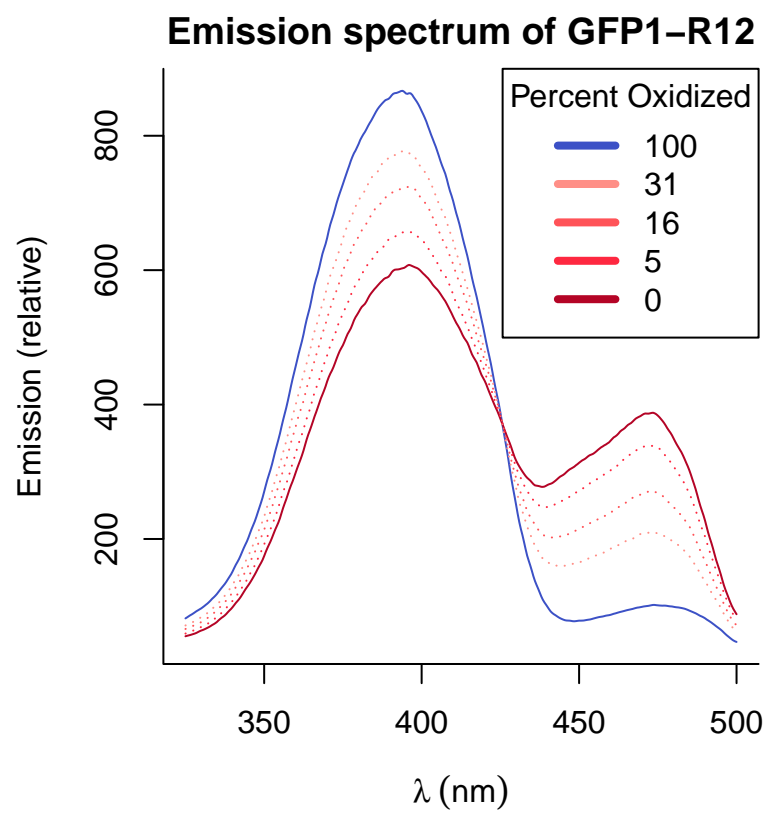


## Excitation-emission profiles





## Delta profiles

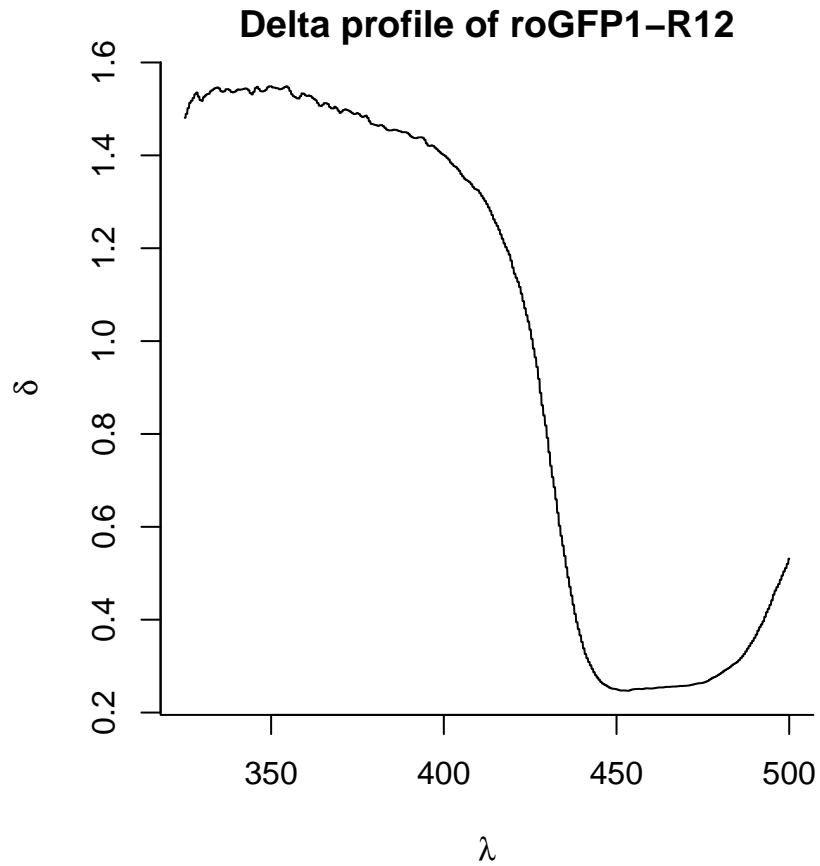


Table 1: Approximate delta-wavelength values for GFP1-R12

Characteristic	GFP1-R12
Delta $\sim 1$	425.3
Delta minimized	453.3
Delta maximized	354.3

Choose two sets of wavelengths for each sensor.

For GFP1-R12:

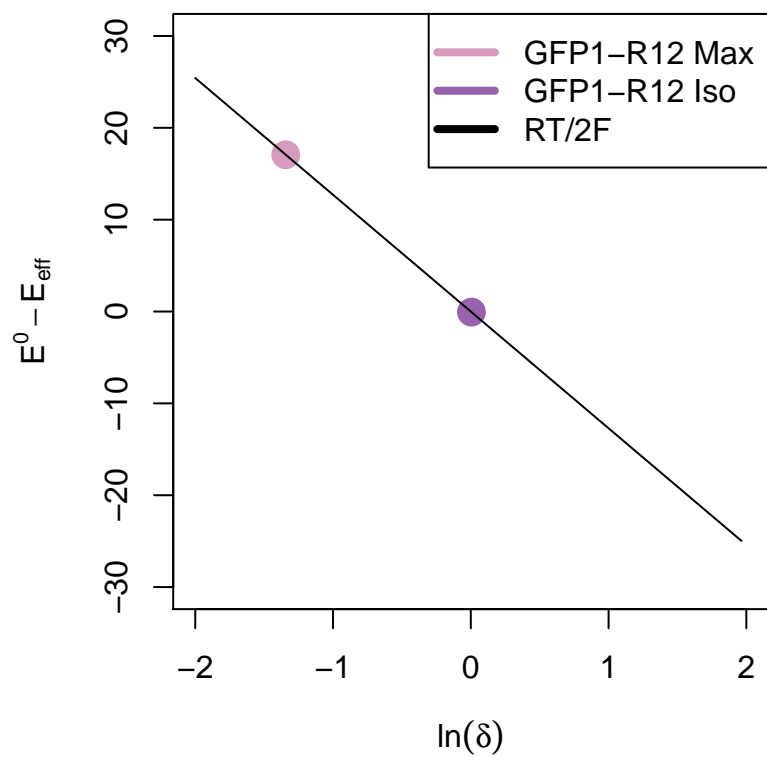
- Use  $\frac{410+/-5nm}{425+/-5nm}$  for isobestic
- Use  $\frac{410+/-5nm}{470+/-5nm}$  for maximum total dynamic range

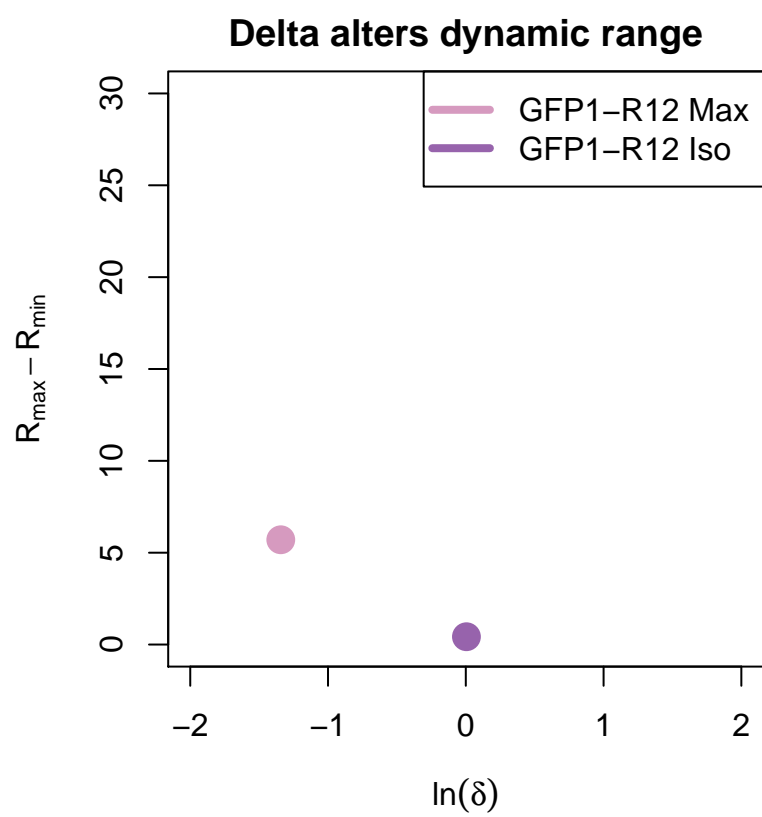
Table 2: Characteristics of GFP1-R12sensors

Characteristic	GFP1 Isobestic	GFP1 Max
Delta	1.0	0.3
Rmin	1.4	1.4
Rmax	1.8	7.1

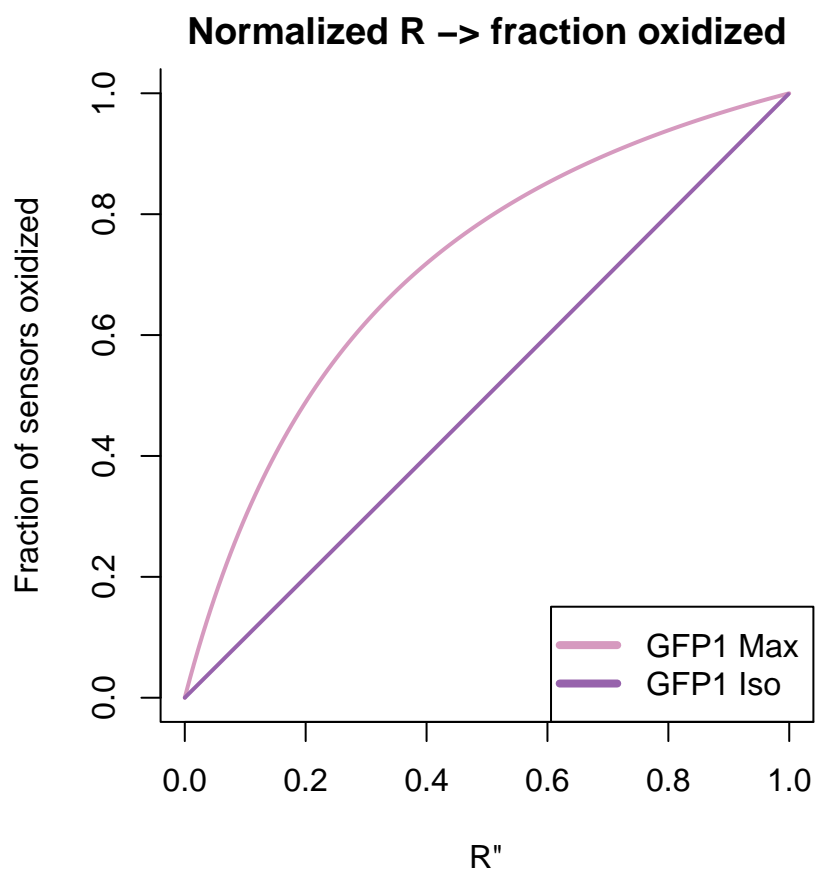
Characteristic	GFP1 Isobestic	GFP1 Max
E0	-265.0	-265.0
Adjusted E0	-265.1	-247.9
Rmax-Rmin	0.4	5.7
Rmax/Rmin	1.3	5.0

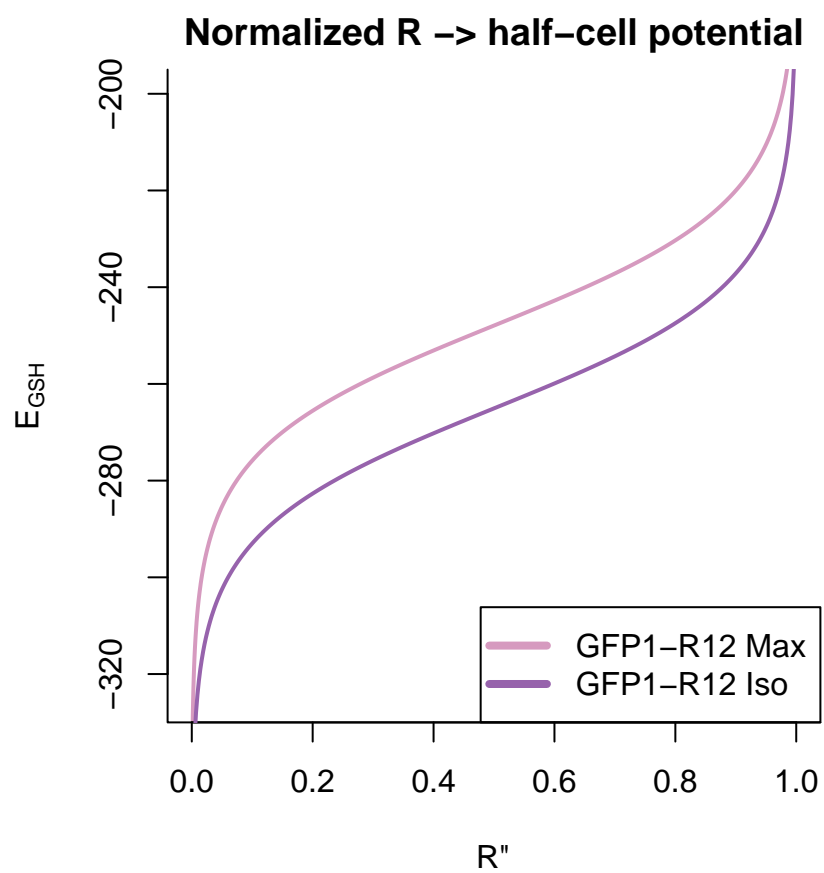
### Delta determines deviation from midpoint



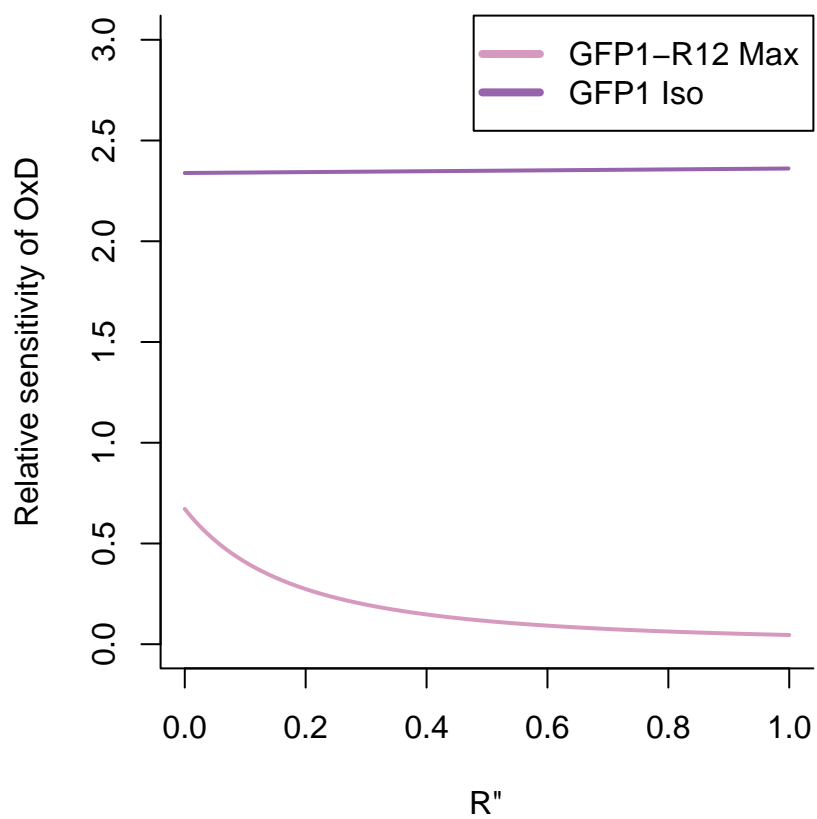


## Fraction oxidized and redox potential



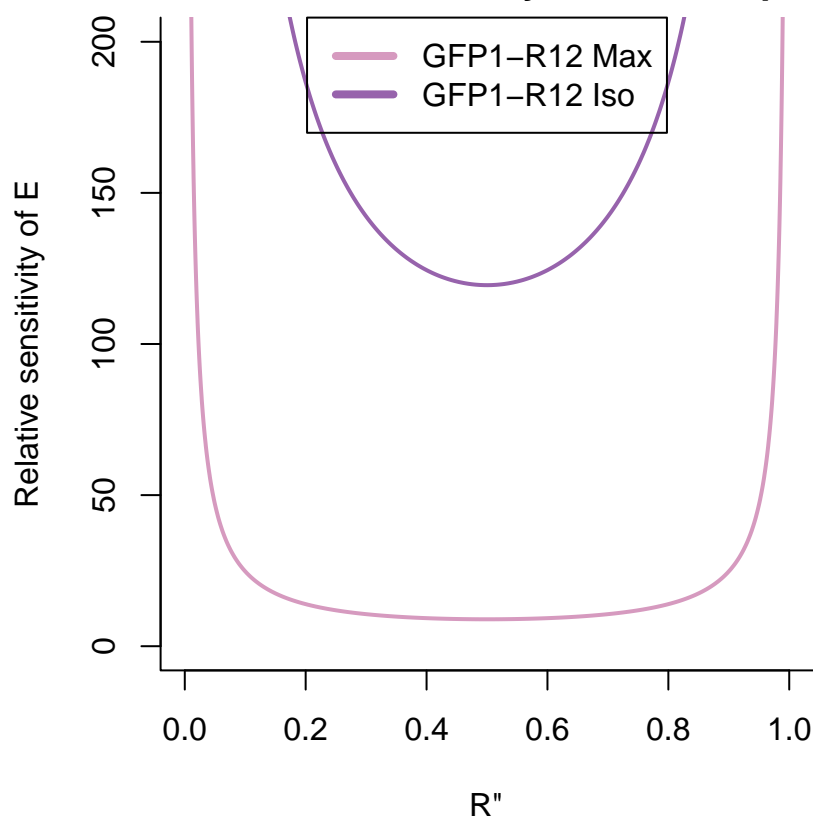


Normalized R → sensitivity of fraction oxidized



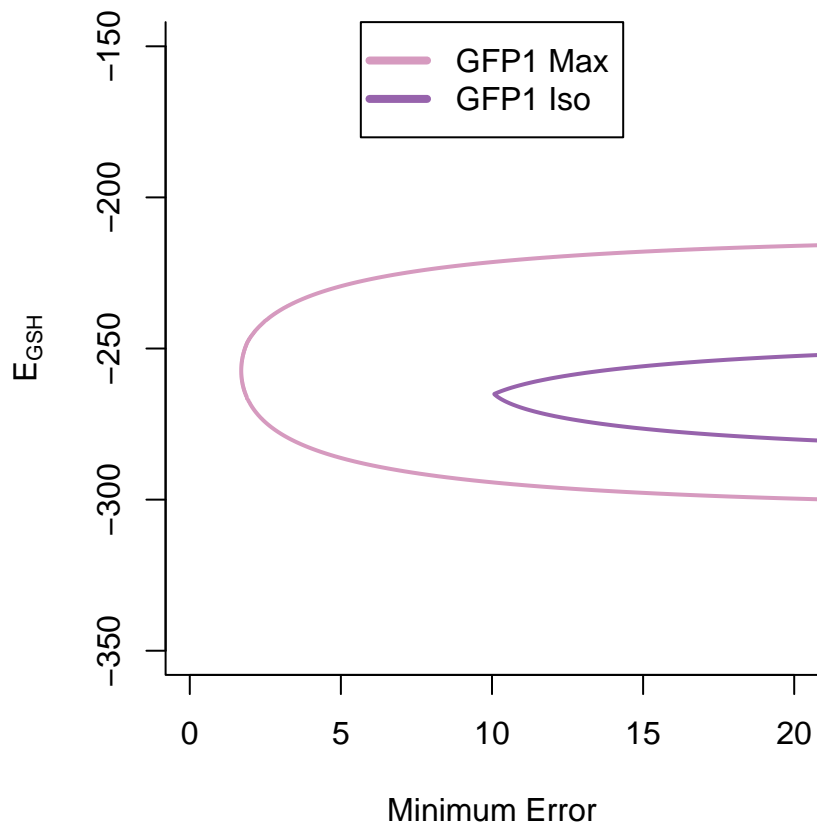


### Normalized R → sensitivity of half-cell potential

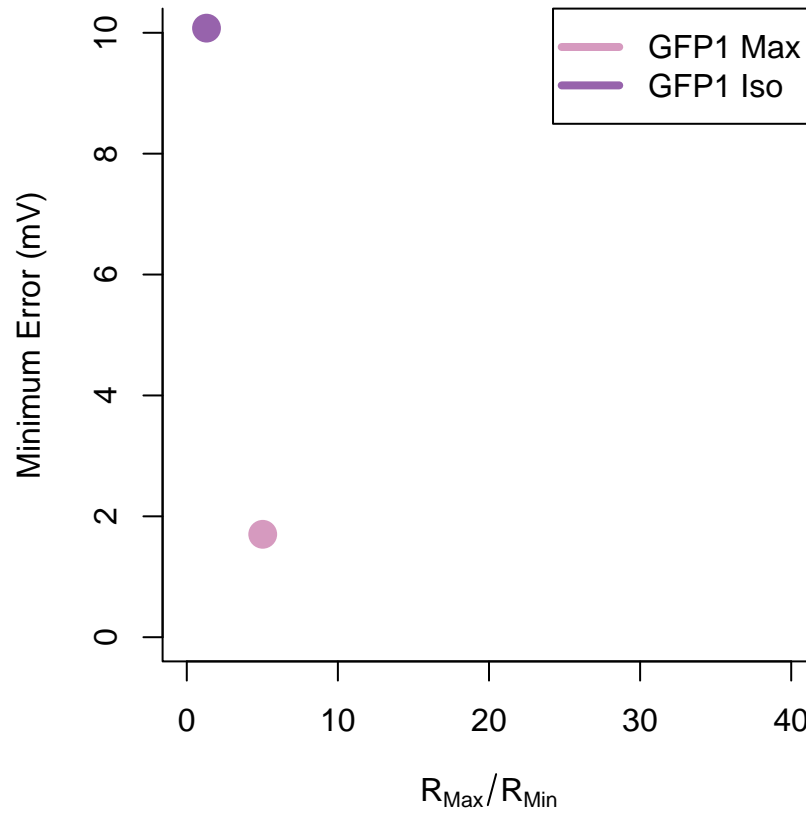


Error in half-cell potential readout given a 5% error in R

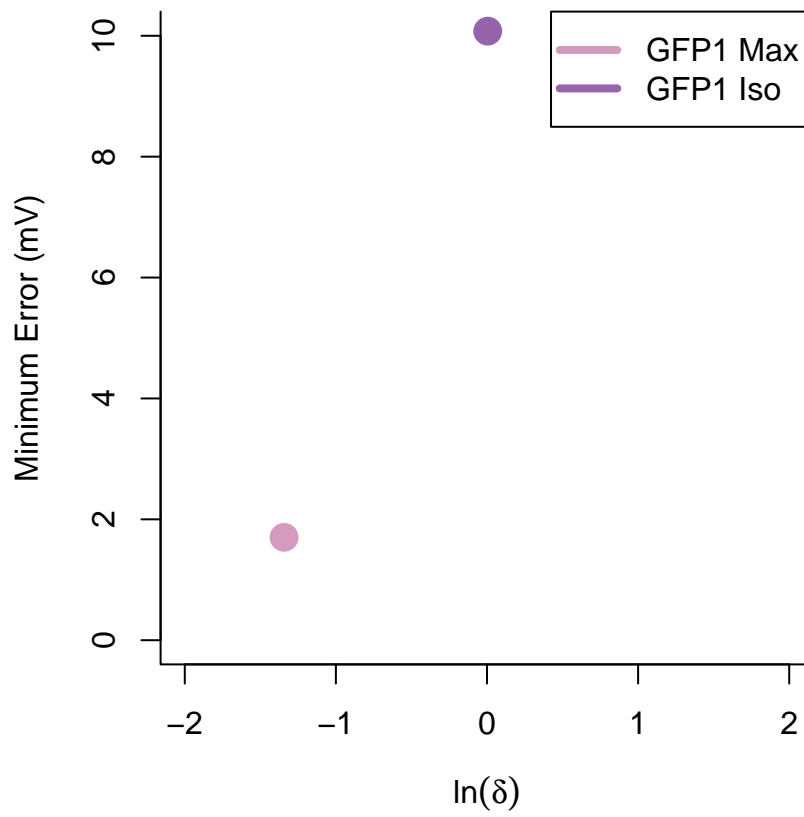
**5% error in R → Measures of E detectable within error**



### Fold-change inversely related to minimum error



Relationship between delta and minimum error?



## pdf  
## 2