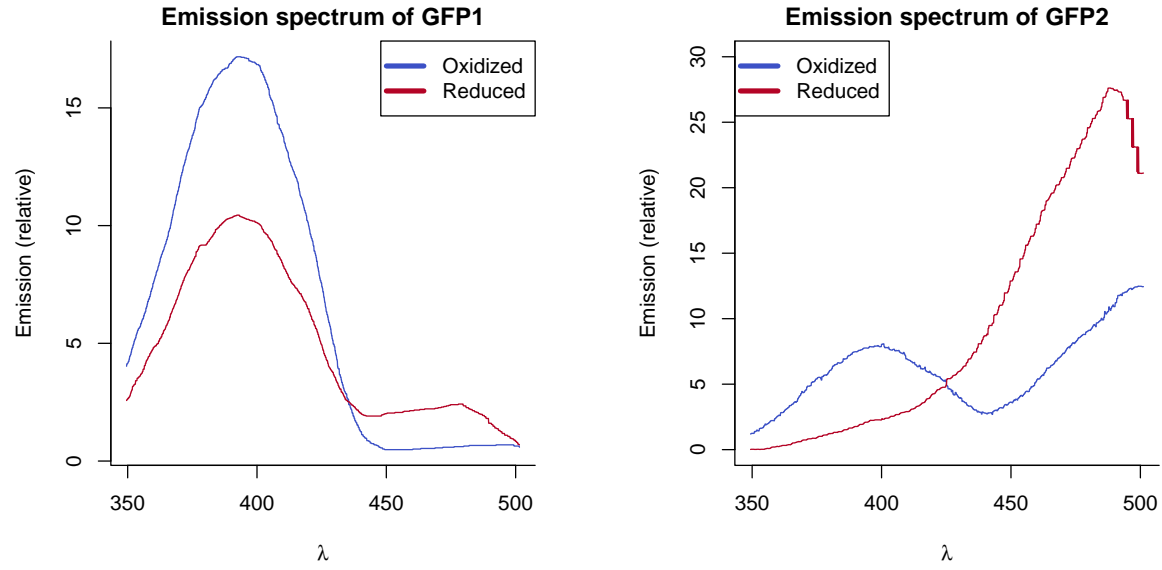


## Excitation-emission profiles



## Delta profiles

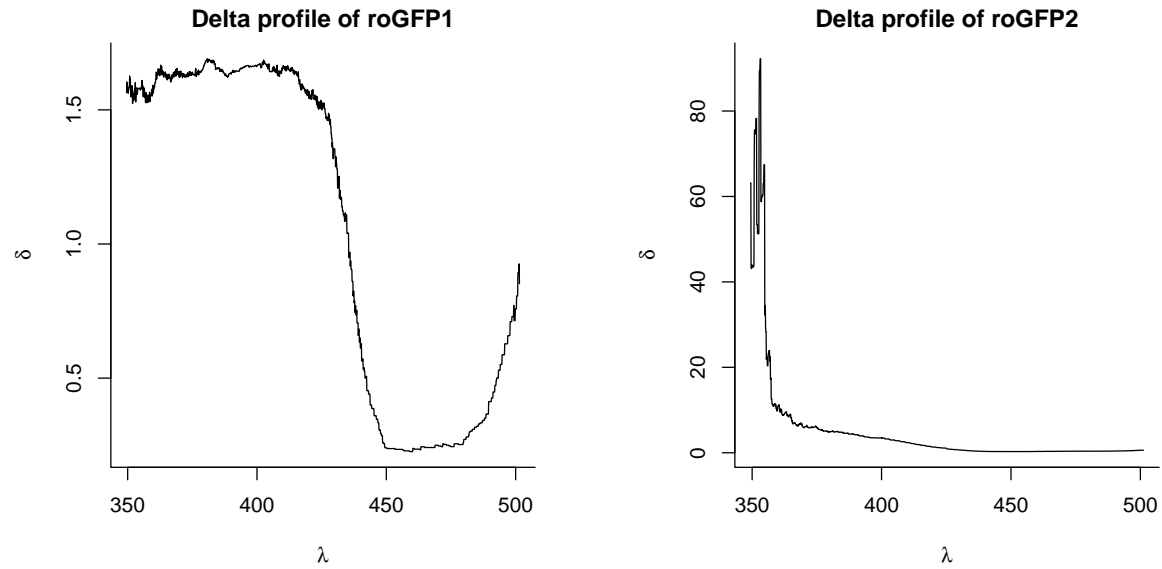


Table 1: Approximate delta-wavelength values for GFP1 and GFP2 sensors. For roGFP2, excluded all wavelengths below 380nm

Characteristic	GFP1	GFP2
Delta $\sim 1$	435.768	425.0872
Delta minimized	459.068	450.6872

Characteristic	GFP1	GFP2
Delta maximized	380.768	383.7872

Choose two sets of wavelengths for each sensor.

For GFP1:

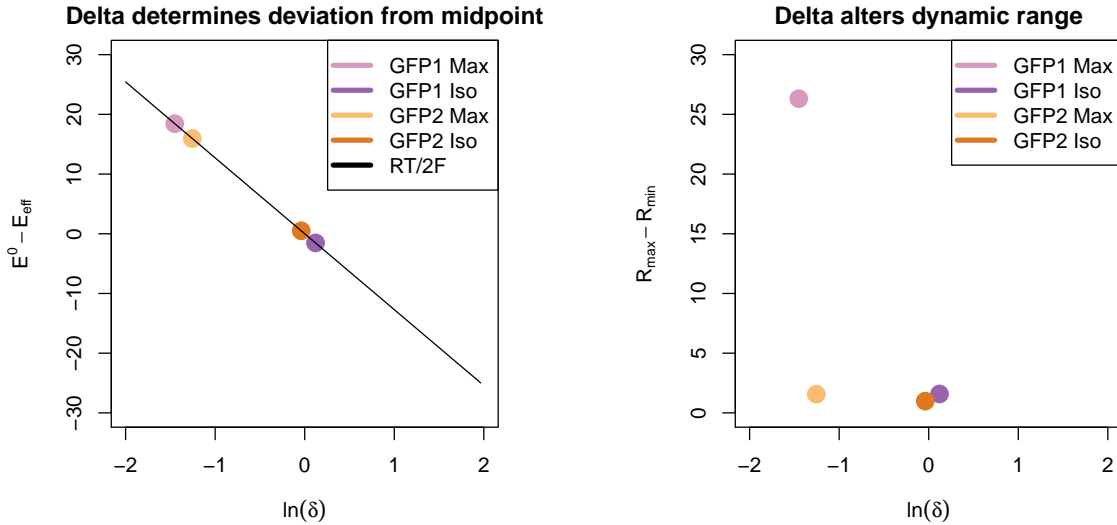
- Use  $\frac{380+/-5nm}{435+/-5nm}$  for isobestic
- Use  $\frac{380+/-5nm}{460+/-5nm}$  for maximum total dynamic range

For GFP2:

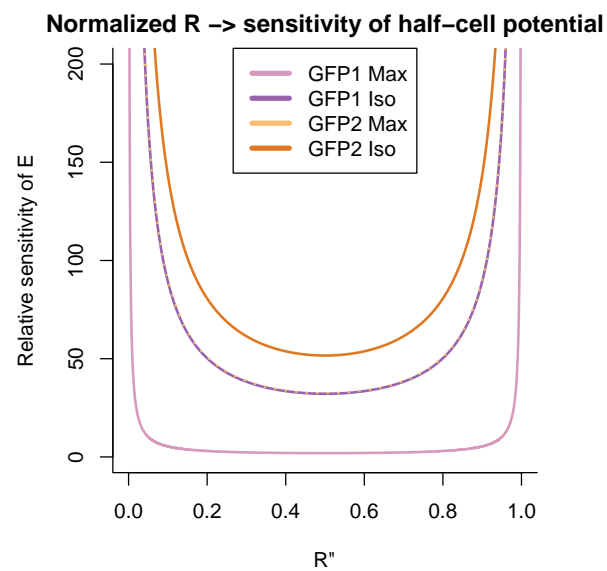
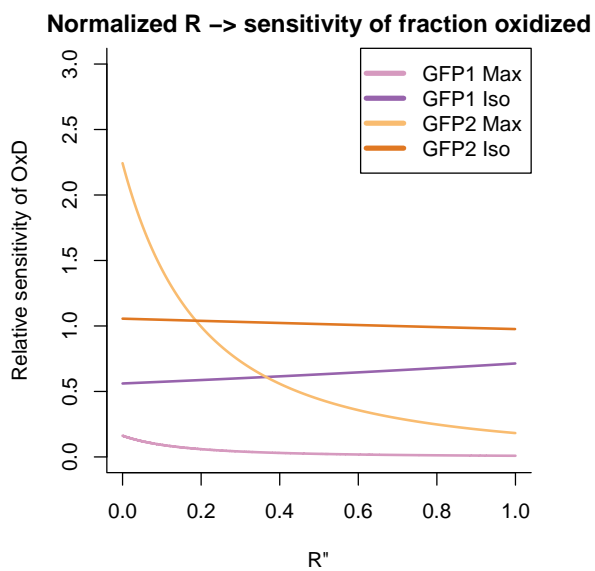
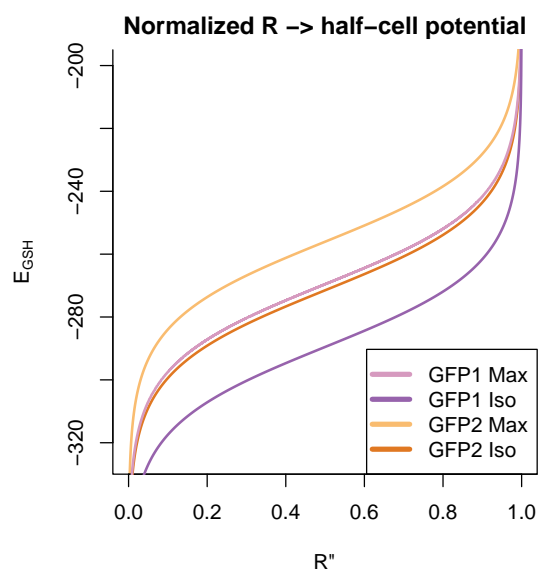
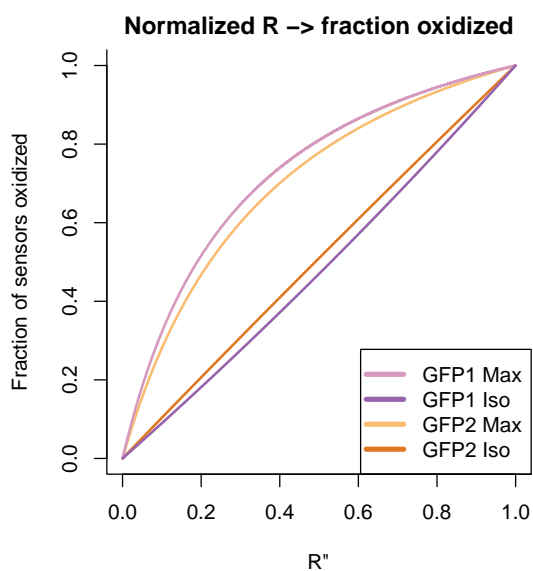
- Use  $\frac{380/-5nm}{425+/-5nm}$  for isobestic
- Use  $\frac{380+/-5nm}{450+/-5nm}$  for maximum total dynamic range

Table 2: Characteristics of GFP1 and GFP2 sensors

Characteristic	GFP1 Isobestic	GFP1 Max	GFP2 Isobestic	GFP2 Max
Delta	1.1	0.2	1.00	0.30
Rmin	3.3	4.3	0.23	0.09
Rmax	4.9	30.6	1.20	1.70
E0	-288.0	-288.0	-272.00	-272.00
Adjusted E0	-289.5	-269.6	-271.50	-256.00
Dynamic Range	1.6	26.3	1.00	1.60
Fold Change	1.5	7.1	5.20	17.60

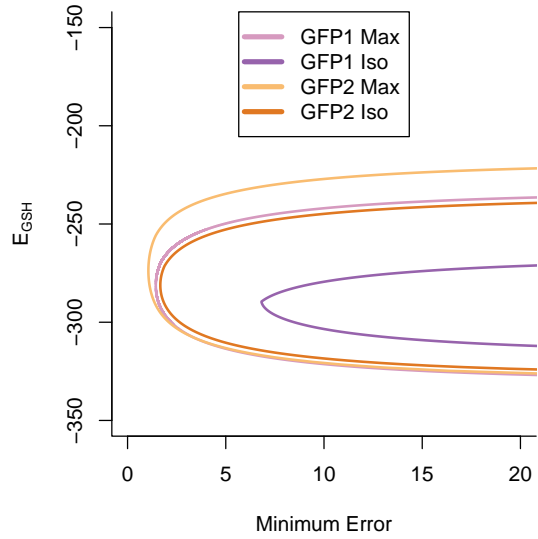


Fraction oxidized and redox potential

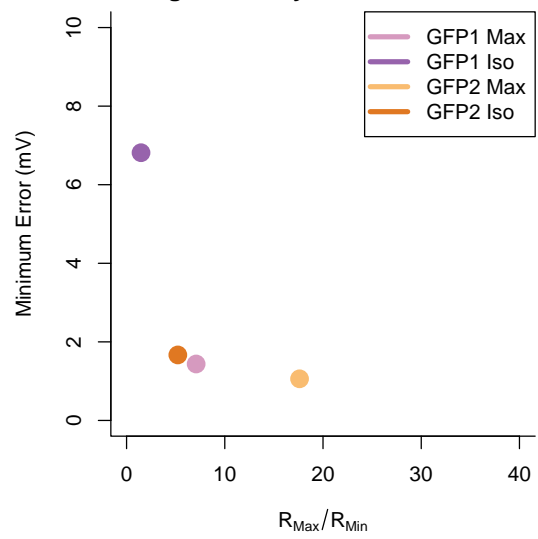


Error in half-cell potential readout given a 5% error in  $R$

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



Fold-change inversely related to minimum error



Relationship between delta and minimum error?

