

Version 25 September 2017.

Line 267, p. 10. “tested by nuclear staining, while mitochondrial function remains unaffected, as shown by the lack of a respiratory response of respiration of isolated mitochondria to the addition of such low concentrations of digitonin and saponin.

I would rephrase it:

...as shown by an unaltered respiration rate of mitochondria after the addition of low concentration of digitonin and saponin.

Line 877 p. 35

The use of $[\text{mol}\cdot\text{s}^{-1}\cdot\text{L}^{-1}]$ and $[\text{mol}\cdot\text{L}^{-1}\cdot\text{s}^{-1}]$ to emphasize the difference between volume-specific flux and rate of concentration change is confusing. The two terms as stated in the line 879 and 880 are different by definition and should deliver your message but the units within the brackets are the same. To further explain the concept, it can be added the following text:

When the external fluxes (inflow and outflow stream) are zero, the rate of change of the mass m_i of substrate or metabolite i can be quantified with a dynamic mass balance as:

$$\frac{dm_i}{dt} = \frac{d(c_i V)}{dt} = \frac{V dc_i}{dt} + \frac{c_i dV}{dt} = r_i V$$

where r_i and V is the net of biochemical reactions involving the specie i and the volume of the metabolic chamber, respectively. When the reactor volume does not change during the reactions which is typical for liquid phase reaction, the rate of change of the substrate or metabolite i is expressed as:

$$\frac{dc_i}{dt} = r_i$$