**Questions for Practical 2: Cancer Metabolism**

*Questions for the healthy cell culture model (FBA\_normal.mlx)*

* Section 1:
  + Question: You might recognize some of the components of the RPMI medium (based on the web links). What is the symbol used for glucose in the model?
* Section 2:
  + Question: What is the flux through the ATP(units of energy) demand reaction and how does it compare to the maximum of 1000? What does this mean biologically?
* Section 3:
  + Question: What is the flux through the ATP demand reaction and how does it compare to the flux in the aerobic case above? What does this mean biologically?
* Section 4:
  + Question: Via which reaction is lactic acid produced during respiration? Do you expect more or less production of lactic acid in the anaerobic model?
  + Question: What is the name of the reaction producing lactic acid from pyruvate?
  + Question: What is the flux through this reaction in the aerobic model? And in the anaerobic model?
  + Question: Did you expect this difference from a biological perspective? Briefly explain.

*Questions for the cancer cell culture model (FBA\_cancer.mlx)*

* Section 1:
  + Question: Inspect the code above. Explain in your own words what we did to create a cancer specific model.
* Section 2:
  + Question: inspect the flux through ATP demand. How does it compare to the healthy (i.e. non-cancer) model? (*aerobic)*
  + Question: inspect the flux through ATP demand. How does it compare to the healthy (i.e. non-cancer) model? *(anaerobic)*
* Section 3:
  + Question: Does the reaction converting lactic acid and pyruvate have a positive or negative flux in the cancer model? Does it differ between aerobic and anaerobic conditions?
  + Question: Is the glycolysis reaction more or less active in the cancer model compared to the healthy model?
  + Question: Do the results align with what is known of aerobic cancer metabolism? Briefly explain.