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Dynamics of the Calvin cycle

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The Calvin cycle is a central part of photosynthesis where carbon fixation takes place. There are various models for this process in the literature which consist of ordinary differential equations. They differ in the number of chemical species included and the assumptions made on the kinetics of the reactions involved. I will discuss the dynamical properties of solutions of some of these models. Issues addressed include whether concentrations may tend to zero at late times (which might be caused by too much inorganic phosphate in the cytosol) and the multiplicity and stability of steady states. I will also discuss how techniques which have proved useful in analysing this problem might be applied to other models in molecular biology.