

An oscillatory kinetic model for the Prion aggregation process

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We investigate the oscillatory behaviour of the PrP protein during the polymerization/depolymerization process. In order to modelize this oscillatory process, we study a simplified Belousov Zhabotinsky reaction from a kinetic point of view. This simplified oscillatory system of chemical reactions allows us to introduce a modified Becker-Döring system where the trajectories oscillate. A key to have a closed oscillatory polymerization/depolymerization system is to consider different species of polymers and monomers. The main goal is to investigate the size distribution in the polymerisation /depolymerisation process of the PrP protein.