

Fast reactions in solution

Schedule:

Week 1: Introduction. Classification of the reactions on the basis of their rate. The interpretation of the most important kinetic parameters: rate constants, parameters of activation.

Week 2: Flow methods I. The stopped-flow method.

Week 3: Flow methods II. The sequential stopped-flow method. A szekvenciális stopped-flow módszer. Physical and chemical quenching of fast reactions. Kinetic discrimination.

Week 4: Flow methods III. The accelerated and the decelerated flow methods.

Week 5: The basic principles of chemical relaxation The perturbation of equilibrium reactions by pulse and continuous methods.

Week 6: The temperature jump method: T-jump

Week 7: The pressure jump method: *p-jump*. The field jump method: E-jump.

Week 8: Ultrasound absorption methods.

Week 9: Stationer electric field method.

Week 10: The evaluation and interpretation of the relaxation experiments

Week 11: Line-broadening methods: NMR, IR.

Week 12: Flash photolysis.

Week 13: Impulse radiolysis.

Week 14: Special fast kinetic methods: flash photolysis with magnetochemical detection and the airgun method.