

# Predici

## PREDICI

...is the leading simulation package for the modeling and dynamic simulation of macromolecular processes. The unique Galerkin h-p-method enables the rigorous computation of complete molecular weight distributions of any form up to any degree of polymerization. But PREDICI is much more, it handles all balances of a process including industrial recipes, reactor cascades and an outstanding parameter estimation tool.

Check out and download the PREDICI brochure.

PREDICI has been applied successfully to processes like radical copolymerization, living-radical polymerization, emulsion polymerization, polycondensation, suspension polymerization, Ziegler-Natta-catalysis, polymer degradation, ionic polymerization and pulsed-laser polymerization.

All simulation results are presented in online-graphs during simulation or optimization runs. Import and export of results and data in text files or via the COM-interface ensure the communication with other program packages (CiT's software products can be used both as OLE-server and as OLE-client). All implemented numerical algorithms include self-adaptive grid and time-step controls based on robust error-control mechanisms. They lead to convincing solutions, convincing both in efficiency and in accuracy. There are numerous examples where PREDICI has provided first-time or reference solutions.

### FEATURES:

- rigorous treatment of complete molecular weight distributions in arbitrary polymerization processes
- reaction step patterns for propagation, termination, transfer (monomer, agent, polymer), depolymerization and polymer degradation, description of oligomers, chain-length dependent reactions and many more
- copolymerization with any number of monomer species
- treatment of composition and branching distributions particle size distributions in heterogeneous systems
- comprehensive parameter estimation tool including distribution fit
- temperature- and pressure profiles as well as recipes for reactors or cascades of reactors
- manipulating of kinetic rate coefficients and reactants by use of an interpreter mechanism
- analysis of polymer properties
- input of measured concentrations as well as molecular weight distributions