



Advanced Chemical Reaction Kinetics of Pharmaceutical Processes

Guest Editors:

Dr. Abdollah Koolivand

Department of Chemical & Biomolecular Engineering,
University of Maryland, College
Park, MD 20740, USA

Prof. Dr. Blaž Likozar

Department of Catalysis and
Chemical Reaction Engineering,
National Institute of Chemistry,
1000 Ljubljana, Slovenia

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Message from the Guest Editors

This Special Issue aims to integrate the novel advances in the development of theoretical, computational, and experimental works on advanced chemical reactions to address scientific and technical difficulties/opportunities related to (bio) pharmaceutical processes.

- Design and control of multiphase pharmaceutical reactor systems;
- Experimental studies, mechanistic modeling, flowsheet simulation, process control, and process optimization for the following reaction systems during drug development:
- Fundamental understanding of structure–property relationships in catalysts and pharmaceutical materials;
- Enhanced understanding of drug substance stability, e.g., degradation due to oxidation by kinetic rate determination;
- Alternative route of drug substance synthesis based on quantitative coupling of experiment/theory for kinetic reactions;
- Kinetic of drug synthesis by a continuous manufacturing approach, such as flow chemistry;
- Recent advancements in numerical simulations of reaction–diffusion phenomena;
- Monte Carlo simulations for enhance pharmaceutical kinetic understanding;
- Bioreactor design and role of reaction mechanism in drug product development;





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Editor-in-Chief

Prof. Dr. Giancarlo Cravotto

Department of Drug Science and
Technology, University of Turin,
Via P. Giuria 9, 10125 Turin, Italy

Message from the Editor-in-Chief

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Processes Editorial Office
MDPI, Grosspeteranlage 5
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