Sebastian Polak

List of Publications by Year
in descending order

87 papers	1,564 citations	393982 19 h-index	344852 36 g-index
97 all docs	97 docs citations	97 times ranked	1939 citing authors

#	Article	IF	Citations
1	Population-Based Mechanistic Prediction of Oral Drug Absorption. AAPS Journal, 2009, 11, 225-237.	2.2	365
2	Collation, assessment and analysis of literature *in vitro* data on hERG receptor blocking potency for subsequent modeling of drugs' cardiotoxic properties. Journal of Applied Toxicology, 2009, 29, 183-206.	1.4	103
3	KinetDS: An Open Source Software for Dissolution Test Data Analysis. Dissolution Technologies, 2012, 19, 6-11.	0.2	94
4	Drug-drug interactions and QT prolongation as a commonly assessed cardiac effect - comprehensive overview of clinical trials. BMC Pharmacology & Toxicology, 2016, 17, 12.	1.0	54
5	Prediction of Concentration–Time Profile and its Inter-Individual Variability following the Dermal Drug Absorption. Journal of Pharmaceutical Sciences, 2012, 101, 2584-2595.	1.6	52
6	Physiologically based pharmacokinetic modelling to guide drug delivery in older people. Advanced Drug Delivery Reviews, 2018, 135, 85-96.	6.6	46
7	Quantitative prediction of formulation-specific food effects and their population variability from in vitro data with the physiologically-based ADAM model: A case study using the BCS/BDDCS Class II drug nifedipine. European Journal of Pharmaceutical Sciences, 2014, 57, 240-249.	1.9	39
8	Optimizing drug discovery by Investigative Toxicology: Current and future trends. ALTEX: Alternatives To Animal Experimentation, 2019, 36, 289-313.	0.9	38
9	Virtual population generator for human cardiomyocytes parameters:in silicodrug cardiotoxicity assessment. Toxicology Mechanisms and Methods, 2012, 22, 31-40.	1.3	27
10	Inter-individual Variability in the Pre-clinical Drug Cardiotoxic Safety Assessment–Analysis of the Age–Cardiomyocytes Electric Capacitance Dependence. Journal of Cardiovascular Translational Research, 2012, 5, 321-332.	1.1	27
11	Circadian Models of Serum Potassium, Sodium, and Calcium Concentrations in Healthy Individuals and Their Application to Cardiac Electrophysiology Simulations at Individual Level. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-8.	0.7	26
12	Real Patient and its Virtual Twin: Application of Quantitative Systems Toxicology Modelling in the Cardiac Safety Assessment of Citalopram. AAPS Journal, 2018, 20, 6.	2.2	23
13	hERG in vitro interchange factors–development and verification. Toxicology Mechanisms and Methods, 2009, 19, 278-284.	1.3	22
14	BDTcomparator: a program for comparing binary classifiers. Bioinformatics, 2011, 27, 3439-3440.	1.8	22
15	In vitro–in vivo extrapolation of drug-induced proarrhythmia predictions at the population level. Drug Discovery Today, 2014, 19, 275-281.	3.2	22
16	Early Drug Discovery Prediction of Proarrhythmia Potential and Its Covariates. AAPS Journal, 2015, 17, 1025-1032.	2.2	22
17	Artificial intelligence technology as a tool for initial GDM screening. Expert Systems With Applications, 2004, 26, 455-460.	4.4	21
18	The effects of six antipsychotic agents on QTc–An attempt to mimic clinical trial through simulation including variability in the population. Computers in Biology and Medicine, 2014, 47, 20-26.	3.9	21

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19	Physiologically Based Pharmacokinetic Modeling of Transdermal Selegiline and Its Metabolites for the Evaluation of Disposition Differences between Healthy and Special Populations. Pharmaceutics, 2020, 12, 942.	2.0	21
20	Age and gender dependent heart rate circadian model development and performance verification on the proarrhythmic drug case study. Theoretical Biology and Medical Modelling, 2013, 10, 7.	2.1	20
21	Top-down, Bottom-up and Middle-out Strategies for Drug Cardiac Safety Assessment via Modeling and Simulations. Current Pharmacology Reports, 2016, 2, 171-177.	1.5	20
22	Am I or am I not proarrhythmic? Comparison of various classifications of drug TdP propensity. Drug Discovery Today, 2017, 22, 10-16.	3.2	19
23	In vitro to human in vivo translation — pharmacokinetics and pharmacodynamics of quinidine. ALTEX: Alternatives To Animal Experimentation, 2013, 30, 309-318.	0.9	19
24	From Heuristic to Mathematical Modeling of Drugs Dissolution Profiles: Application of Artificial Neural Networks and Genetic Programming. Computational and Mathematical Methods in Medicine, 2015, 2015, 1-9.	0.7	17
25	Better prediction of the local concentration–effect relationship: the role of physiologically based pharmacokinetics and quantitative systems pharmacology and toxicology in the evolution of model-informed drug discovery and development. Drug Discovery Today, 2019, 24, 1344-1354.	3.2	17
26	Serum potassium, sodium and calcium levels in healthy individuals - literature review and data analysis. Folia Medica Cracoviensia, 2014, 54, 53-70.	0.3	17
27	Assessment of inter-individual variability in predicted phenytoin clearance. European Journal of Clinical Pharmacology, 2009, 65, 1203-1210.	0.8	16
28	Generalized in vitro-in vivo relationship (IVIVR) model based on artificial neural networks. Drug Design, Development and Therapy, 2013, 7, 223.	2.0	16
29	Selective laser sintering (SLS) technique for pharmaceutical applications—Development of high dose controlled release printlets. Additive Manufacturing, 2021, 38, 101761.	1.7	16
30	Prediction of the hERG potassium channel inhibition potential with use of artificial neural networks. Applied Soft Computing Journal, 2011, 11, 2611-2617.	4.1	15
31	Virtual Clinical Trial Toward Polytherapy Safety Assessment: Combination of Physiologically Based Pharmacokinetic/Pharmacodynamic-Based Modeling and Simulation Approach With Drug-Drug Interactions Involving Terfenadine as an Example. Journal of Pharmaceutical Sciences, 2016, 105, 3415-3424.	1.6	15
32	Early assessment of proarrhythmic risk of drugs using the *in vitro* data and single-cell-based *in silico* models: proof of concept. Toxicology Mechanisms and Methods, 2017, 27, 88-99.	1.3	15
33	Quantitative approach for cardiac risk assessment and interpretation in tuberculosis drug development. Journal of Pharmacokinetics and Pharmacodynamics, 2018, 45, 457-467.	0.8	15
34	Artificial neural networks based Internet hypertension prediction tool development and validation. Applied Soft Computing Journal, 2008, 8, 734-739.	4.1	14
35	Computer-based prediction of the drug proarrhythmic effect: problems, issues, known and suspected challenges. Europace, 2014, 16, 724-735.	0.7	14
36	The Role of Interaction Model in Simulation of Drug Interactions and QT Prolongation. Current Pharmacology Reports, 2016, 2, 339-344.	1.5	13

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37	A four-compartment PBPK heart model accounting for cardiac metabolism - model development and application. Scientific Reports, 2017, 7, 39494.	1.6	13
38	Tox-Database.net: a curated resource for data describing chemical triggered in vitro cardiac ion channels inhibition. BMC Pharmacology & Toxicology, 2012, 13, 6.	1.0	12
39	Predictive model for L–type channel inhibition: multichannel block in QT prolongation risk assessment. Journal of Applied Toxicology, 2012, 32, 858-866.	1.4	12
40	Plasma vs heart tissue concentration in humans – literature data analysis of drugs distribution. Biopharmaceutics and Drug Disposition, 2015, 36, 337-351.	1.1	12
41	Enhanced QSAR models for drug–triggered inhibition of the main cardiac ion currents. Journal of Applied Toxicology, 2015, 35, 1030-1039.	1.4	12
42	QTc modification after risperidone administration – insight into the mechanism of action with use of the modeling and simulation at the population level approach. Toxicology Mechanisms and Methods, 2015, 25, 279-286.	1.3	11
43	Physiologically based pharmacokinetic-quantitative systems toxicology and safety (PBPK-QSTS) modeling approach applied to predict the variability of amitriptyline pharmacokinetics and cardiac safety in populations and in individuals. Journal of Pharmacokinetics and Pharmacodynamics, 2018, 45, 663-677.	0.8	11
44	The impact of pharmaceutical care on patients with hypertension and their pharmacists. Pharmacy Practice, 2011, 9, 110-5.	0.8	11
45	Towards Bridging Translational Gap in Cardiotoxicity Prediction: an Application of Progressive Cardiac Risk Assessment Strategy in TdP Risk Assessment of Moxifloxacin. AAPS Journal, 2018, 20, 47.	2.2	10
46	Virtual Thorough QT (TQT) Trial—Extrapolation of In Vitro Cardiac Safety Data to In Vivo Situation Using Multi-Scale Physiologically Based Ventricular Cell-wall Model Exemplified with Tolterodine and Fesoterodine. AAPS Journal, 2018, 20, 83.	2.2	10
47	Slow delayed rectifying potassium current (I_{Ks}) – analysis of the *in vitro* inhibition data and predictive model development. Journal of Applied Toxicology, 2013, 33, 723-739.	1.4	9
48	What it takes to understand and cure a living system: computational systems biology and a systems biology-driven pharmacokinetics–pharmacodynamics platform. Interface Focus, 2011, 1, 16-23.	1.5	8
49	Development of *In Vitro*-*In Vivo* Correlation/Relationship Modeling Approaches for Immediate Release Formulations Using Compartmental Dynamic Dissolution Data from "Golem": A Novel Apparatus. BioMed Research International, 2015, 2015, 1-13.	0.9	8
50	Comment on "*In Silico* Modeling of Gastrointestinal Drug Absorption: Predictive Performance of Three Physiologically-Based Absorption Models". Molecular Pharmaceutics, 2017, 14, 336-339.	2.3	8
51	The open-access dataset for insilico cardiotoxicity prediction system. Bioinformation, 2011, 6, 244-245.	0.2	8
52	Multi–phase multi–layer mechanistic dermal absorption (MPML MechDermA) model to predict local and systemic exposure of drug products applied on skin. CPT: Pharmacometrics and Systems Pharmacology, 2022, 11, 1060-1084.	1.3	8
53	Mechanistic Physiologically Based Pharmacokinetic (PBPK) Model of the Heart Accounting for Inter-Individual Variability: Development and Performance Verification. Journal of Pharmaceutical Sciences, 2018, 107, 1167-1177.	1.6	7
54	Drug interaction at hERG channel: In vitro assessment of the electrophysiological consequences of drug combinations and comparison against theoretical models. Journal of Applied Toxicology, 2018, 38, 450-458.	1.4	7

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55	Analysis of non-hospital antibacterial pharmacotherapy in Poland. International Journal of Infectious Diseases, 2008, 12, 483-489.	1.5	6
56	Combining an in silico proarrhythmic risk assay with a tPKPD model to predict QTc interval prolongation in the anesthetized guinea pig assay. Toxicology and Applied Pharmacology, 2020, 390, 114883.	1.3	6
57	Magnetic Coreâ€"Shell Molecularly Imprinted Nano-Conjugates for Extraction of Antazoline and Hydroxyantazoline from Human Plasmaâ€"Material Characterization, Theoretical Analysis and Pharmacokinetics. International Journal of Molecular Sciences, 2021, 22, 3665.	1.8	5
58	Thorough QT (TQT) studies: concordance with torsadogenesis and an evolving cardiac safety testing paradigm. Drug Discovery Today, 2017, 22, 1460-1465.	3.2	4
59	Humans Vary, So Cardiac Models Should Account for That Too!. Frontiers in Physiology, 2017, 8, 700.	1.3	4
60	CardiacPBPK: A tool for the prediction and visualization of time-concentration profiles of drugs in heart tissue. Computers in Biology and Medicine, 2019, 115, 103484.	3.9	4
61	An Open-Access Dataset of Thorough QT Studies Results. Data, 2020, 5, 10.	1.2	4
62	Artificial neural networks based modeling for pharmacoeconomics application. Applied Mathematics and Computation, 2008, 203, 482-492.	1.4	3
63	Model of the Distribution of Diastolic Left Ventricular Posterior Wall Thickness in Healthy Adults and Its Impact on the Behavior of a String of Virtual Cardiomyocytes. Journal of Cardiovascular Translational Research, 2014, 7, 507-517.	1.1	3
64	Open-access database of literature derived drug-related Torsade de Pointes cases. BMC Pharmacology & Toxicology, 2022, 23, 7.	1.0	3
65	An analysis of cardiomyocytesâ€™ electrophysiology in the presence of the <i>hERG</i> gene mutations. Bio-Algorithms and Med-Systems, 2013, 9, 135-140.	1.0	2
66	Quantitative Assessment of the Physiological Parameters Influencing QT Interval Response to Medication: Application of Computational Intelligence Tools. Computational and Mathematical Methods in Medicine, 2018, 2018, 1-11.	0.7	2
67	Characterization of In Vitro and In Vivo Metabolism of Antazoline Using Liquid Chromatography-Tandem Mass Spectrometry. International Journal of Molecular Sciences, 2020, 21, 9693.	1.8	2
68	How-To: Empirical IVIVR Without Intravenous Data. Dissolution Technologies, 2015, 22, 12-18.	0.2	2
69	In Vitro-In Vivo Correlation (IVIVC): From Current Achievements Towards the Future. Dissolution Technologies, 2018, 25, 20-27.	0.2	2
70	A heart compartmental model for the prediction of cardiac amitriptyline concentration. Journal of Pharmacological and Toxicological Methods, 2016, 81, 352.	0.3	1
71	Utilizing postmortem drug concentrations in mechanistic modeling and simulation of cardiac effects: a proof of concept study with methadone. Toxicology Mechanisms and Methods, 2018, 28, 555-562.	1.3	1
72	How circadian variability of the heart rate and plasma electrolytes concentration influence the cardiac electrophysiology â€" model-based case study. Journal of Pharmacokinetics and Pharmacodynamics, 2021, 48, 387-399.	0.8	1

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73	Prediction of the hERG Potassium Channel Inhibition Potential with Use of the Artificial Neural Networks. Advances in Intelligent and Soft Computing, 2010, , 91-99.	0.2	1
74	Wild type and K897T polymorphisms of the hERG gene: modeling the APD in Caucasians. Bioinformation, 2012, 8, 1062-1065.	0.2	1
75	From in vitro-in vivo relationship (IVIVR) towards in vitro-in vivo extrapolation (IVIVE): A case study of pulmonary delivery systems. Dissolution Technologies, 2017, 24, 32-35.	0.2	1
76	Artificial neural networks as an engine of Internet based hypertension prediction tool. Studies in Health Technology and Informatics, 2004, 103, 61-9.	0.2	1
77	Development and Performance Verification of the PBPK Model for Antazoline and Its Metabolite and Its Utilization for Pharmacological Hypotheses Formulating. Pharmaceuticals, 2022, 15, 379.	1.7	1
78	The effect of increasing amitriptyline doses on cardiomyocytes' electrophysiology â€" simulation study. Bio-Algorithms and Med-Systems, 2016, 12, 33-38.	1.0	0
79	Drugâ€"physiology interaction and its influence on the QT prolongation-mechanistic modeling study. Journal of Pharmacokinetics and Pharmacodynamics, 2018, 45, 483-490.	0.8	0
80	Effect of multiple drugs interacting with the hERG channelâ€"In vitro study. Journal of Pharmacological and Toxicological Methods, 2018, 93, 118.	0.3	0
81	Evolutionary Algorithms in Modeling Aerodynamic Properties of Spray-Dried Microparticulate Systems. Applied Sciences (Switzerland), 2020, 10, 7109.	1.3	0
82	Development of physiologically based pharmacokinetic model for the immediate release ropinirole tablets. Acta Poloniae Pharmaceutica, 2021, 78, 317-328.	0.3	0
83	Using Artificial Neural Network as a Tool for Epidemiological Data Analysis. , 2003, , 486-491.		0
84	In Silico Assessment of Antiarrhythmic Effects of Drug Ranolazine on Electrical Activity in Human Ventricular Myocardium. , 0, , .		0
85	In Silico Assessment of Nifedipine Effects on Human Heart Cells: Pharmacokinetic-Pharmacodynamic Analyses at the Population Level. , 0, , .		0
86	Drug Therapy Optimization System Based on a Hybrid Approach Combining Clinical Data and In Silico Modeling - Perspective View and Concept Description. International Review on Modelling and Simulations, 2020, 13, 234.	0.2	0
87	Artificial neural network in pharmacoeconomics. Studies in Health Technology and Informatics, 2004, 105, 241-9.	0.2	0