

Sean P Rigby

List of Publications by Year in descending order

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110
papers

2,984
citations

236612

25
h-index

189595

50
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112
all docs

112
docs citations

112
times ranked

3203
citing authors

#	ARTICLE	IF	CITATIONS
1	Numerical simulation investigations of the applicability of THAI in situ combustion process in heavy oil reservoirs underlain by bottom water. <i>Petroleum Research</i> , 2023, 8, 36-43.	1.6	3
2	Effect of operating pressure on the performance of THAI-CAPRI in situ combustion and in situ catalytic process for simultaneous thermal and catalytic upgrading of heavy oils and bitumen. <i>Petroleum Research</i> , 2022, 7, 155-164.	1.6	4
3	Evaluation of impact of surface diffusion on methane recovery via carbon dioxide injection in shale reservoirs. <i>Fuel</i> , 2022, 307, 121928.	3.4	6
4	Simulation of catalytic upgrading in CAPRI, an add-on process to novel in-situ combustion, THAI. <i>Petroleum Research</i> , 2022, 7, 297-307.	1.6	4
5	Evolution of the mineralogy, pore structure and transport properties of Nordland Shale following exposure to supercritical carbon dioxide. <i>Journal of Petroleum Science and Engineering</i> , 2022, 213, 110466.	2.1	9
6	In-situ microwave-assisted catalytic upgrading of heavy oil: Experimental validation and effect of catalyst pore structure on activity. <i>Chemical Engineering Journal</i> , 2021, 413, 127420.	6.6	21
7	Hyperpolarised xenon MRI and time-resolved X-ray computed tomography studies of structure-transport relationships in hierarchical porous media. <i>Chemical Engineering Journal</i> , 2021, 405, 126750.	6.6	11
8	Multi-scale pore structural change across a paleodepositional transition in Utica shale probed by gas sorption overcondensation and scanning. <i>Marine and Petroleum Geology</i> , 2021, 134, 105348.	1.5	6
9	Pore structural evolution of shale following thermochemical treatment. <i>Marine and Petroleum Geology</i> , 2020, 112, 104058.	1.5	16
10	In Situ Monitoring of Heterogeneous Catalytic Hydrogenation via ¹²⁹ Xe NMR Spectroscopy and Proton MRI. <i>ACS Catalysis</i> , 2020, 10, 1417-1422.	5.5	11
11	Inductive Heating Assisted-Catalytic Dehydrogenation of Tetralin as a Hydrogen Source for Downhole Catalytic Upgrading of Heavy Oil. <i>Topics in Catalysis</i> , 2020, 63, 268-280.	1.3	10
12	Structural and chemical heterogeneity in ancient glass probed using gas overcondensation, X-ray tomography, and solid-state NMR. <i>Materials Characterization</i> , 2020, 167, 110467.	1.9	5
13	Hydrogenation and Dehydrogenation of Tetralin and Naphthalene to Explore Heavy Oil Upgrading Using NiMo/Al ₂ O ₃ and CoMo/Al ₂ O ₃ Catalysts Heated with Steel Balls via Induction. <i>Catalysts</i> , 2020, 10, 497.	1.6	15
14	Tetralin and Decalin H-Donor Effect on Catalytic Upgrading of Heavy Oil Inductively Heated with Steel Balls. <i>Catalysts</i> , 2020, 10, 393.	1.6	18
15	Predicting Surface Diffusivities of Gas Molecules in Shale. <i>Energy & Fuels</i> , 2020, 34, 12417-12428.	2.5	3
16	Numerical simulation of the impact of geological heterogeneity on performance and safety of THAI heavy oil production process. <i>Journal of Petroleum Science and Engineering</i> , 2019, 173, 1130-1148.	2.1	30
17	Impact of Oil Composition on Microwave Heating Behavior of Heavy Oils. <i>Energy & Fuels</i> , 2018, 32, 1592-1599.	2.5	21
18	Effect of pre-ignition heating cycle method, air injection flux, and reservoir viscosity on the THAI heavy oil recovery process. <i>Journal of Petroleum Science and Engineering</i> , 2018, 166, 94-103.	2.1	22

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19	Recent Developments in the Structural Characterisation of Disordered, Mesoporous Solids. Johnson Matthey Technology Review, 2018, 62, 296-312.	0.5	7
20	Effect of Pressure and Heat Treatments on the Compressive Strength of Reactive Powder Concrete. MATEC Web of Conferences, 2018, 147, 01006.	0.1	5
21	Microwave synthesis of carbon onions in fractal aggregates using heavy oil as a precursor. Carbon, 2018, 138, 427-435.	5.4	13
22	Dynamic Simulation of the Toe-to-Heel Air Injection Heavy Oil Recovery Process. Energy & Fuels, 2017, 31, 1276-1284.	2.5	45
23	Detection of the delayed condensation effect and determination of its impact on the accuracy of gas adsorption pore size distributions. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 517, 33-44.	2.3	7
24	Determination of Pore Network Accessibility in Hierarchical Porous Solids. Industrial & Engineering Chemistry Research, 2017, 56, 14822-14831.	1.8	7
25	Pore Structural Characterization of Fuel Cell Layers Using Integrated Mercury Porosimetry and Computerized X-ray Tomography. Industrial & Engineering Chemistry Research, 2016, 55, 10850-10859.	1.8	13
26	Techniques for direct experimental evaluation of structure-transport relationships in disordered porous solids. Adsorption, 2016, 22, 993-1000.	1.4	7
27	Structure-transport relationships in disordered solids using integrated rate of gas sorption and mercury porosimetry. Chemical Engineering Science, 2016, 152, 663-673.	1.9	17
28	Molecular hydrogen and catalytic combustion in the production of hyperpolarized ⁸³ Kr and ¹²⁹ Xe MRI contrast agents. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3164-3168.	3.3	24
29	Improving the accuracy of catalyst pore size distributions from mercury porosimetry using mercury thermoporometry. Chemical Engineering Science, 2016, 140, 291-298.	1.9	11
30	Effects of high-pressure/temperature curing on reactive powder concrete microstructure formation. Construction and Building Materials, 2016, 105, 554-562.	3.2	73
31	NMR imaging of low pressure, gas-phase transport in packed beds using hyperpolarized xenon-129. AIChE Journal, 2015, 61, 4013-4019.	1.8	11
32	Characterization of pore coking in catalyst for thermal down-hole upgrading of heavy oil. Chemical Engineering Science, 2015, 131, 138-145.	1.9	10
33	Post-synthetic modification of zinc metal-organic frameworks through palladium-catalysed carbon-carbon bond formation. Journal of Organometallic Chemistry, 2015, 792, 134-138.	0.8	4
34	Insights into the influence of the cooling profile on the reconstitution times of amorphous lyophilized protein formulations. European Journal of Pharmaceutics and Biopharmaceutics, 2015, 96, 247-254.	2.0	46
35	Surfactant Mediated CO ₂ Adsorption; the Role of the Co-impregnation Species. Energy Procedia, 2014, 63, 2323-2330.	1.8	6
36	Pilot-scale Demonstration of an Advanced Aqueous Amine-based Post-combustion Capture Technology for CO ₂ Capture from Power Plant Flue Gases. Energy Procedia, 2014, 63, 1456-1469.	1.8	13

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37	Improving sensitivity and accuracy of pore structural characterisation using scanning curves in integrated gas sorption and mercury porosimetry experiments. <i>Journal of Colloid and Interface Science</i> , 2014, 417, 88-99.	5.0	29
38	Impact of Chemical Heterogeneity on the Accuracy of Pore Size Distributions in Disordered Solids. <i>Journal of Physical Chemistry C</i> , 2014, 118, 20627-20638.	1.5	14
39	NMR cryoporometry characterisation studies of the relation between drug release profile and pore structural evolution of polymeric nanoparticles. <i>International Journal of Pharmaceutics</i> , 2014, 469, 146-158.	2.6	27
40	Combining mercury thermoporometry with integrated gas sorption and mercury porosimetry to improve accuracy of pore-size distributions for disordered solids. <i>Journal of Colloid and Interface Science</i> , 2014, 426, 72-79.	5.0	19
41	Preliminary Investigation on the Chemical Response of Cementitious Grouts Used for Borehole Sealing of Geologically Stored CO ₂ . <i>Energy Procedia</i> , 2014, 59, 174-181.	1.8	4
42	An approach to characterisation of multi-scale pore geometry and correlation with moisture storage and transport coefficients in cement-stabilised soils. <i>Acta Geotechnica</i> , 2013, 8, 67-79.	2.9	14
43	Probing hysteresis during sorption of cyclohexane within mesoporous silica using NMR cryoporometry and relaxometry. <i>Journal of Colloid and Interface Science</i> , 2013, 398, 168-175.	5.0	8
44	Investigation of the problems with using gas adsorption to probe catalyst pore structure evolution during coking. <i>Journal of Colloid and Interface Science</i> , 2013, 393, 234-240.	5.0	4
45	Temperature effects in benzene alkylation with ethane into ethylbenzene over a PtH-MFI bifunctional catalyst. <i>Applied Catalysis A: General</i> , 2013, 454, 137-144.	2.2	14
46	Benzene alkylation with ethane in ethylbenzene over a PtH-MFI catalyst: Kinetic and IR investigation of the catalyst deactivation. <i>Journal of Catalysis</i> , 2013, 301, 125-133.	3.1	20
47	Probing the impact of advanced melting and advanced adsorption phenomena on the accuracy of pore size distributions from cryoporometry and adsorption using NMR relaxometry and diffusometry. <i>Journal of Colloid and Interface Science</i> , 2012, 385, 183-192.	5.0	17
48	The synthesis, structures and reactions of zinc and cobalt metal-organic frameworks incorporating an alkyne-based dicarboxylate linker. <i>CrystEngComm</i> , 2012, 14, 188-192.	1.3	20
49	Understanding the spatial distribution of coke deposition within bimodal micro-/mesoporous catalysts using a novel sorption method in combination with pulsed-gradient spin-echo NMR. <i>Journal of Catalysis</i> , 2012, 286, 260-265.	3.1	6
50	Determination of the location of coke in catalysts by a novel NMR-based, liquid-porosimetry approach. <i>Journal of Colloid and Interface Science</i> , 2012, 381, 164-170.	5.0	1
51	The characterization of macroporous solids: An overview of the methodology. <i>Microporous and Mesoporous Materials</i> , 2012, 154, 2-6.	2.2	76
52	Deactivation during 1-Hexene Isomerization over Zeolite Y and ZSM5 Catalysts under Supercritical Conditions. <i>Industrial & Engineering Chemistry Research</i> , 2011, 50, 7161-7171.	1.8	8
53	Selective incorporation of functional dicarboxylates into zinc metal-organic frameworks. <i>Chemical Communications</i> , 2011, 47, 3380.	2.2	56
54	Experimental Optimization of Catalytic Process In Situ for Heavy-Oil and Bitumen Upgrading. <i>Journal of Canadian Petroleum Technology</i> , 2011, 50, 33-47.	2.3	54

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55	MRI and PGSE NMR Studies of Long-range, Pore-pore Interaction Effects in Gas Adsorption. , 2011, , .		0
56	Determination of the Spatial Location of Coke in Catalysts by a Novel NMR Approach. , 2011, , .		0
57	Studies of freezing"melting hysteresis in cryoporometry scanning loop experiments using NMR diffusometry and relaxometry. Chemical Engineering Science, 2011, 66, 582-592.	1.9	29
58	Improving the interpretation of mercury porosimetry data using computerised X-ray tomography and mean-field DFT. Chemical Engineering Science, 2011, 66, 2328-2339.	1.9	22
59	Liquid intrusion and alternative methods for the characterization of macroporous materials (IUPAC) Tj ETQq1 1 0.784314 rgBT /Overlo	0.9	163
60	Deactivation of PtH-MFI bifunctional catalysts by coke formation during benzene alkylation with ethane. Journal of Catalysis, 2010, 271, 401-412.	3.1	19
61	The initial release of cisplatin from poly(lactide-co-glycolide) microspheres. International Journal of Pharmaceutics, 2010, 383, 244-254.	2.6	17
62	Studies of structure"transport relationships in biodegradable polymer microspheres for drug delivery using NMR cryodiffusometry. Chemical Engineering Science, 2010, 65, 611-625.	1.9	9
63	Modelling of pore structure evolution during catalyst deactivation and comparison with experiment. Chemical Engineering Science, 2010, 65, 5550-5558.	1.9	4
64	MF-DFT and Experimental Investigations of the Origins of Hysteresis in Mercury Porosimetry of Silica Materials. Langmuir, 2010, 26, 241-248.	1.6	13
65	A review of novel techniques for heavy oil and bitumen extraction and upgrading. Energy and Environmental Science, 2010, 3, 700.	15.6	431
66	NMR Studies of Cooperative Effects in Adsorption. Langmuir, 2010, 26, 18061-18070.	1.6	14
67	Interpretation of integrated gas sorption and mercury porosimetry studies of adsorption in disordered networks using"mean-field DFT. Adsorption, 2009, 15, 31-41.	1.4	11
68	Coke Formation and Characterization During 1-Hexene Isomerization and Oligomerization over H-ZSM-5 Catalyst under Supercritical Conditions. Industrial & Engineering Chemistry Research, 2009, 48, 7899-7909.	1.8	18
69	Experimental and modelling studies of the kinetics of mercury retraction from highly confined geometries during porosimetry in the transport and the quasi-equilibrium regimes. Chemical Engineering Science, 2008, 63, 5771-5788.	1.9	7
70	Fundamental studies of gas sorption within mesopores situated amidst an inter-connected, irregular network. Adsorption, 2008, 14, 289-307.	1.4	16
71	Determination of the percolation properties and pore connectivity for mesoporous solids using NMR cryodiffusometry. Chemical Engineering Science, 2008, 63, 1929-1940.	1.9	37
72	Synthesis and characterisation of metal"organic frameworks containing bis(1,2-diketonate) linkers. CrystEngComm, 2008, 10, 1474.	1.3	8

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73	Syntheses, structures and properties of cadmium benzenedicarboxylate metal-organic frameworks. Dalton Transactions, 2008, , 2465.	1.6	63
74	Simulation of mercury porosimetry using MRI images of porous media. Studies in Surface Science and Catalysis, 2007, 160, 177-184.	1.5	0
75	Effects of carbonation on the pore structure of non-hydraulic lime mortars. Cement and Concrete Research, 2007, 37, 1059-1069.	4.6	124
76	Simulation of Nonwetting Phase Entrapment within Porous Media Using Magnetic Resonance Imaging. Langmuir, 2006, 22, 5180-5188.	1.6	6
77	Using Nano-Cast Model Porous Media and Integrated Gas Sorption to Improve Fundamental Understanding and Data Interpretation in Mercury Porosimetry. Particle and Particle Systems Characterization, 2006, 23, 82-93.	1.2	13
78	Studies of the entrapment of non-wetting fluid within nanoporous media using a synergistic combination of MRI and micro-computed X-ray tomography. Chemical Engineering Science, 2006, 61, 7579-7592.	1.9	14
79	Prediction of gas sorption kinetics for porous media using MRI. AIChE Journal, 2006, 52, 3278-3289.	1.8	3
80	Predicting surface diffusivities of molecules from equilibrium adsorption isotherms. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 262, 139-149.	2.3	56
81	NMR and confocal microscopy studies of the mechanisms of burst drug release from PLGA microspheres. Journal of Controlled Release, 2005, 108, 271-281.	4.8	50
82	Integrating Gas Sorption with Mercury Porosimetry. Adsorption, 2005, 11, 201-206.	1.4	5
83	Modeling the Fractal Growth of Templated, Mesoporous Silica Films. Journal of Physical Chemistry B, 2005, 109, 6294-6303.	1.2	4
84	An Experimental Study of Gas Adsorption on Fractal Surfaces. Langmuir, 2005, 21, 2281-2292.	1.6	72
85	Solvent hydrolysis and templating effects in the synthesis of metal-organic frameworks. CrystEngComm, 2005, 7, 548.	1.3	242
86	Determining drug spatial distribution within controlled delivery tablets using MFX imaging. Journal of Controlled Release, 2004, 96, 97-100.	4.8	19
87	Characterisation of porous solids using integrated nitrogen sorption and mercury porosimetry. Chemical Engineering Science, 2004, 59, 41-51.	1.9	92
88	Nanocasting of novel, designer-structured catalyst supports. Chemical Engineering Science, 2004, 59, 5113-5120.	1.9	11
89	Experimental Evidence for Pore Blocking as the Mechanism for Nitrogen Sorption Hysteresis in a Mesoporous Material. Journal of Physical Chemistry B, 2004, 108, 4690-4695.	1.2	32
90	A Model for the Surface Diffusion of Molecules on a Heterogeneous Surface. Langmuir, 2003, 19, 364-376.	1.6	14

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91	Interpreting mercury porosimetry data for catalyst supports using semi-empirical alternatives to the Washburn equation. <i>Applied Catalysis A: General</i> , 2003, 238, 303-318.	2.2	35
92	Determination of the cause of mercury entrapment during porosimetry experiments on sol-gel silica catalyst supports. <i>Applied Catalysis A: General</i> , 2003, 247, 27-39.	2.2	18
93	New methodologies in mercury porosimetry. <i>Studies in Surface Science and Catalysis</i> , 2002, 144, 185-192.	1.5	20
94	Determination of the Multiscale Percolation Properties of Porous Media Using Mercury Porosimetry. <i>Industrial & Engineering Chemistry Research</i> , 2002, 41, 1205-1226.	1.8	17
95	Characterisation of porous solids using a synergistic combination of nitrogen sorption, mercury porosimetry, electron microscopy and micro-focus X-ray imaging techniques. <i>Physical Chemistry Chemical Physics</i> , 2002, 4, 3467-3481.	1.3	24
96	Fractal Theory for the Compensation Effect Observed in a Surface Diffusion Process Studied Using Deuteron NMR. <i>Langmuir</i> , 2002, 18, 1613-1618.	1.6	12
97	The Influence of Mercury Contact Angle, Surface Tension, and Retraction Mechanism on the Interpretation of Mercury Porosimetry Data. <i>Journal of Colloid and Interface Science</i> , 2002, 250, 175-190.	5.0	91
98	A statistical model for the heterogeneous structure of porous catalyst pellets. <i>Advances in Colloid and Interface Science</i> , 2002, 98, 87-119.	7.0	22
99	Characterization of Macroscopic Structural Disorder in Porous Media Using Mercury Porosimetry. <i>Journal of Colloid and Interface Science</i> , 2001, 240, 190-210.	5.0	21
100	The use of NMR imaging and mercury porosimetry in the modelling and measurement of coke profiles in deactivated catalyst pellets. <i>Studies in Surface Science and Catalysis</i> , 2000, , 3267-3272.	1.5	3
101	Modelling studies of the influence of macroscopic structural heterogeneities on nitrogen sorption hysteresis. <i>Studies in Surface Science and Catalysis</i> , 2000, 128, 111-120.	1.5	10
102	A Hierarchical Structural Model for the Interpretation of Mercury Porosimetry and Nitrogen Sorption. <i>Journal of Colloid and Interface Science</i> , 2000, 224, 382-396.	5.0	37
103	Deconvolving pore shielding effects in mercury porosimetry data using NMR techniques. <i>Chemical Engineering Science</i> , 2000, 55, 5599-5612.	1.9	11
104	Macroscopic diffusional anisotropy in porous media. <i>Chaos, Solitons and Fractals</i> , 2000, 11, 1297-1301.	2.5	2
105	NMR and modelling studies of structural heterogeneity over several lengthscales in amorphous catalyst supports. <i>Catalysis Today</i> , 1999, 53, 207-223.	2.2	16
106	The prediction of transport properties of porous media using fractal models and NMR experimental techniques. <i>Chemical Engineering Science</i> , 1999, 54, 3503-3512.	1.9	25
107	Molecular dynamical studies of the mobility of benzene and water on silica surfaces: Correlation with the influence of surface chemistry and morphology. <i>Studies in Surface Science and Catalysis</i> , 1999, 122, 183-190.	1.5	4
108	The Use of Magnetic Resonance Images in the Simulation of Diffusion in Porous Catalyst Support Pellets. <i>Journal of Catalysis</i> , 1998, 173, 484-489.	3.1	32

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109	Influence of Structural Heterogeneity on Selectivity in Fractal Catalyst Structures. Journal of Catalysis, 1998, 180, 44-50.	3.1	15
110	Theoretical Aspects of the Estimation of Pore and Mass Fractal Dimensions of Porous Media on the Macroscopic Scale using NMR Imaging. Chaos, Solitons and Fractals, 1998, 9, 1519-1527.	2.5	6