

# Raül Sanz

## List of Publications by Year in descending order

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90  
papers

3,710  
citations

101543

36  
h-index

138484

58  
g-index

91  
all docs

91  
docs citations

91  
times ranked

4135  
citing authors

#	ARTICLE	IF	CITATIONS
1	CO <sub>2</sub> adsorption on branched polyethyleneimine-impregnated mesoporous silica SBA-15. <i>Applied Surface Science</i> , 2010, 256, 5323-5328.	6.1	230
2	Synthesis of a honeycomb-like Cu-based metal-organic framework and its carbon dioxide adsorption behaviour. <i>Dalton Transactions</i> , 2013, 42, 2392-2398.	3.3	174
3	Amino functionalized mesostructured SBA-15 silica for CO <sub>2</sub> capture: Exploring the relation between the adsorption capacity and the distribution of amino groups by TEM. <i>Microporous and Mesoporous Materials</i> , 2012, 158, 309-317.	4.4	135
4	CO <sub>2</sub> adsorption performance of amino-functionalized SBA-15 under post-combustion conditions. <i>International Journal of Greenhouse Gas Control</i> , 2013, 17, 366-375.	4.6	107
5	CO <sub>2</sub> capture with pore-expanded MCM-41 silica modified with amino groups by double functionalization. <i>Microporous and Mesoporous Materials</i> , 2015, 209, 165-171.	4.4	105
6	Development of high efficiency adsorbents for CO <sub>2</sub> capture based on a double-functionalization method of grafting and impregnation. <i>Journal of Materials Chemistry A</i> , 2013, 1, 1956.	10.3	103
7	Copper-based MOF-74 material as effective acid catalyst in Friedel-Crafts acylation of anisole. <i>Catalysis Today</i> , 2014, 227, 130-137.	4.4	103
8	Amino-impregnated MOF materials for CO <sub>2</sub> capture at post-combustion conditions. <i>Chemical Engineering Science</i> , 2016, 142, 55-61.	3.8	103
9	Review of Supported Pd-Based Membranes Preparation by Electroless Plating for Ultra-Pure Hydrogen Production. <i>Membranes</i> , 2018, 8, 5.	3.0	103
10	Hierarchical TS-1 zeolite as an efficient catalyst for oxidative desulphurization of hydrocarbon fractions. <i>Applied Catalysis B: Environmental</i> , 2014, 146, 35-42.	20.2	101
11	Influence of Drying Conditions on Amine-Functionalized SBA-15 as Adsorbent of CO <sub>2</sub> . <i>Topics in Catalysis</i> , 2011, 54, 135-145.	2.8	100
12	Turning TS-1 zeolite into a highly active catalyst for olefin epoxidation with organic hydroperoxides. <i>Chemical Communications</i> , 2009, , 1407.	4.1	84
13	Crystallization mechanism of all-silica zeolite beta in fluoride medium. <i>Microporous and Mesoporous Materials</i> , 2001, 46, 35-46.	4.4	81
14	Reuse and recycling of amine-functionalized silica materials for CO <sub>2</sub> adsorption. <i>Chemical Engineering Journal</i> , 2017, 308, 1021-1033.	12.7	80
15	Perovskite materials for hydrogen production by thermochemical water splitting. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 19329-19338.	7.1	77
16	Tuning the textural properties of HMS mesoporous silica. Functionalization towards CO <sub>2</sub> adsorption. <i>Microporous and Mesoporous Materials</i> , 2018, 260, 235-244.	4.4	77
17	Synthesis and crystallization mechanism of zeolite TS-2 by microwave and conventional heating. <i>Microporous and Mesoporous Materials</i> , 2004, 69, 197-208.	4.4	69
18	Amino-functionalized pore-expanded SBA-15 for CO <sub>2</sub> adsorption. <i>Adsorption</i> , 2013, 19, 589-600.	3.0	68

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19	CO <sub>2</sub> adsorption on amine-functionalized clays. <i>Microporous and Mesoporous Materials</i> , 2019, 282, 38-47.	4.4	66
20	Preparation of extruded catalysts based on TS-1 zeolite for their application in propylene epoxidation. <i>Catalysis Today</i> , 2009, 143, 151-157.	4.4	61
21	Tailoring the properties of hierarchical TS-1 zeolite synthesized from silanized protozeolitic units. <i>Applied Catalysis A: General</i> , 2012, 435-436, 32-42.	4.3	59
22	Hierarchical TS-1 zeolite synthesized from SiO <sub>2</sub> TiO <sub>2</sub> xerogels imprinted with silanized protozeolitic units. <i>Chemical Engineering Journal</i> , 2011, 171, 1428-1438.	12.7	58
23	CO <sub>2</sub> Uptake and Adsorption Kinetics of Pore-Expanded SBA-15 Double-Functionalized with Amino Groups. <i>Energy &amp; Fuels</i> , 2013, 27, 7637-7644.	5.1	57
24	Preparation, testing and modelling of a hydrogen selective Pd/YSZ/SS composite membrane. <i>International Journal of Hydrogen Energy</i> , 2011, 36, 15783-15793.	7.1	53
25	Mesostructured SiO <sub>2</sub> -doped TiO <sub>2</sub> with enhanced thermal stability prepared by a soft-templating sol-gel route. <i>Microporous and Mesoporous Materials</i> , 2008, 111, 429-440.	4.4	50
26	Narrowing the mesopore size distribution in hierarchical TS-1 zeolite by surfactant-assisted reorganization. <i>Microporous and Mesoporous Materials</i> , 2014, 189, 71-82.	4.4	49
27	H <sub>2</sub> production via water gas shift in a composite Pd membrane reactor prepared by the pore-plating method. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 4739-4748.	7.1	43
28	Development of crystallinity and photocatalytic properties in porous TiO <sub>2</sub> by mild acid treatment. <i>Journal of Materials Chemistry</i> , 2007, 17, 1178.	6.7	41
29	New developments on carbon dioxide capture using amine-impregnated silicas. <i>Adsorption</i> , 2016, 22, 609-619.	3.0	41
30	Preliminary study on the TS-1 deactivation during styrene oxidation with H <sub>2</sub> O <sub>2</sub> . <i>Catalysis Today</i> , 2000, 61, 263-270.	4.4	40
31	New synthesis method of Pd membranes over tubular PSS supports via "pore-plating" for hydrogen separation processes. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 18476-18485.	7.1	40
32	Hydrogen permeation in composite Pd-membranes prepared by conventional electroless plating and electroless pore-plating alternatives over ceramic and metallic supports. <i>International Journal of Hydrogen Energy</i> , 2016, 41, 19430-19438.	7.1	40
33	Surface-functionalization of mesoporous SBA-15 silica materials for controlled release of methylprednisolone sodium hemisuccinate: Influence of functionality type and strategies of incorporation. <i>Microporous and Mesoporous Materials</i> , 2017, 240, 236-245.	4.4	40
34	Modelling the adsorption and controlled release of drugs from the pure and amino surface-functionalized mesoporous silica hosts. <i>Microporous and Mesoporous Materials</i> , 2018, 262, 23-34.	4.4	40
35	Selective oxidation of benzyl alcohol using in situ generated H <sub>2</sub> O <sub>2</sub> over hierarchical Au-Pd titanium silicalite catalysts. <i>Catalysis Science and Technology</i> , 2013, 3, 2425.	4.1	39
36	Comparative study of ASNase immobilization on tannic acid-modified magnetic Fe <sub>3</sub> O <sub>4</sub> /SBA-15 nanoparticles to enhance stability and reusability. <i>New Journal of Chemistry</i> , 2020, 44, 4440-4451.	2.8	37

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37	Platinum Catalyst on Multiwalled Carbon Nanotubes for the Catalytic Wet Air Oxidation of Phenol. <i>Industrial &amp; Engineering Chemistry Research</i> , 2007, 46, 6449-6455.	3.7	36
38	Influence of the type of siliceous material used as intermediate layer in the preparation of hydrogen selective palladium composite membranes over a porous stainless steel support. <i>International Journal of Hydrogen Energy</i> , 2012, 37, 6030-6042.	7.1	36
39	Preparation of bimodal micro-mesoporous TiO <sub>2</sub> with tailored crystalline properties. <i>Chemical Communications</i> , 2004, , 1000-1001.	4.1	34
40	Synthesis of Hierarchical TS-1 Zeolite from Silanized Seeds. <i>Topics in Catalysis</i> , 2010, 53, 1319-1329.	2.8	34
41	Hybrid amine-silica materials: Determination of N content by <sup>29</sup> Si NMR and application to direct CO <sub>2</sub> capture from air. <i>Chemical Engineering Journal</i> , 2019, 373, 1286-1294.	12.7	34
42	Hydrogen production in a Pore-Plated Pd-membrane reactor: Experimental analysis and model validation for the Water Gas Shift reaction. <i>International Journal of Hydrogen Energy</i> , 2015, 40, 3472-3484.	7.1	33
43	Thermal stability and effect of typical water gas shift reactant composition on H <sub>2</sub> permeability through a Pd-YSZ-PSS composite membrane. <i>International Journal of Hydrogen Energy</i> , 2014, 39, 1398-1409.	7.1	32
44	Hierarchical ZSM-5 zeolite with uniform mesopores and improved catalytic properties. <i>New Journal of Chemistry</i> , 2016, 40, 4206-4216.	2.8	32
45	Influence of the structural and textural properties of ordered mesoporous materials and hierarchical zeolitic supports on the controlled release of methylprednisolone hemisuccinate. <i>Journal of Materials Chemistry B</i> , 2014, 2, 7996-8004.	5.8	29
46	Alkaline-earth metal based MOFs with second scale long-lasting phosphor behavior. <i>CrystEngComm</i> , 2018, 20, 4793-4803.	2.6	29
47	Synthesis of hierarchical Beta zeolite with uniform mesopores: Effect on its catalytic activity for veratrole acylation. <i>Catalysis Today</i> , 2018, 304, 89-96.	4.4	28
48	Improvement of the hierarchical TS-1 properties by silanization of protozeolitic units in presence of alcohols. <i>Microporous and Mesoporous Materials</i> , 2013, 166, 59-66.	4.4	27
49	Stability of pore-plated membranes for hydrogen production in fluidized-bed membrane reactors. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 7374-7385.	7.1	27
50	Thermochemical hydrogen production using manganese cobalt spinels as redox materials. <i>International Journal of Hydrogen Energy</i> , 2017, 42, 13532-13543.	7.1	26
51	Highly Active Anti-Diabetic Metal-Organic Framework. <i>Crystal Growth and Design</i> , 2016, 16, 537-540.	3.0	23
52	Amine grafting of acid-activated bentonite for carbon dioxide capture. <i>Applied Clay Science</i> , 2019, 180, 105195.	5.2	23
53	Bromine pre-functionalized porous polyphenylenes: New platforms for one-step grafting and applications in reversible CO <sub>2</sub> capture. <i>Journal of CO<sub>2</sub> Utilization</i> , 2019, 30, 183-192.	6.8	23
54	Modelling and simulation of permeation behaviour on Pd/PSS composite membranes prepared by pore-plating method. <i>Journal of Membrane Science</i> , 2013, 446, 410-421.	8.2	22

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55	H <sub>2</sub> permeation increase of electroless pore-plated Pd/PSS membranes with CeO <sub>2</sub> intermediate barriers. Separation and Purification Technology, 2019, 216, 16-24.	7.9	22
56	H <sub>2</sub> production by thermochemical water splitting with reticulated porous structures of ceria-based mixed oxide materials. International Journal of Hydrogen Energy, 2021, 46, 17458-17471.	7.1	22
57	Influence of the selective layer morphology on the permeation properties for Pd-PSS composite membranes prepared by electroless pore-plating: Experimental and modeling study. Separation and Purification Technology, 2018, 194, 10-18.	7.9	21
58	Effect of acid activation on the CO <sub>2</sub> adsorption capacity of montmorillonite. Adsorption, 2020, 26, 793-811.	3.0	21
59	Engineering hollow mesoporous silica nanoparticles to increase cytotoxicity. Materials Science and Engineering C, 2020, 112, 110935.	7.3	20
60	Dopa release from mesoporous silica nanoparticles engineered through the concept of drug-structure-directing agents for Parkinson's disease. Journal of Materials Chemistry B, 2021, 9, 4178-4189.	5.8	20
61	An investigation of the textural properties of mesostructured silica-based adsorbents for predicting CO <sub>2</sub> adsorption capacity. RSC Advances, 2015, 5, 103147-103154.	3.6	18
62	Preparation of a new chromatographic media and assessment of some kinetic and interaction parameters for lysozyme. Journal of Molecular Liquids, 2019, 276, 480-487.	4.9	18
63	Pd-thickness reduction in electroless pore-plated membranes by using doped-ceria as interlayer. International Journal of Hydrogen Energy, 2020, 45, 7278-7289.	7.1	16
64	Coating of Ca(OH) <sub>2</sub> / $\gamma$ -Al <sub>2</sub> O <sub>3</sub> pellets with mesoporous Al <sub>2</sub> O <sub>3</sub> and its application in thermochemical heat storage for CSP plants. Renewable Energy, 2020, 162, 587-595.	8.9	16
65	Co-evaluation of interaction parameters of genomic and plasmid DNA for a new chromatographic medium. International Journal of Biological Macromolecules, 2019, 141, 1183-1190.	7.5	15
66	Cytostatic and Cytotoxic Effects of Hollow-Shell Mesoporous Silica Nanoparticles Containing Magnetic Iron Oxide. Nanomaterials, 2021, 11, 2455.	4.1	14
67	Fine-tuning hierarchical ZSM-5 zeolite by controlled aggregation of protozeolitic units functionalized with tertiary amine-containing organosilane. Microporous and Mesoporous Materials, 2020, 303, 110189.	4.4	13
68	Ultra-Pure Hydrogen via Co-Valorization of Olive Mill Wastewater and Bioethanol in Pd-Membrane Reactors. Processes, 2020, 8, 219.	2.8	13
69	Effectiveness of amino-functionalized sorbents for CO <sub>2</sub> capture in the presence of Hg. Fuel, 2020, 267, 117250.	6.4	13
70	Effect of the dual incorporation of fullerene and polyethyleneimine moieties into SBA-15 materials as platforms for drug delivery. Journal of Materials Science, 2019, 54, 11635-11653.	3.7	12
71	Untangling the role of the organosilane functional groups in the synthesis of hierarchical ZSM-5 zeolite by crystallization of silanized protozeolitic units. Catalysis Today, 2020, 345, 27-38.	4.4	12
72	Hydrogen production by water splitting with Mn <sub>3-x</sub> Co <sub>x</sub> O <sub>4</sub> mixed oxides thermochemical cycles: A thermodynamic analysis. Energy Conversion and Management, 2020, 216, 112945.	9.2	11

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73	Tracking the evolution of embryonic zeolites into hierarchical ZSM-5. Journal of Materials Chemistry A, 2021, 9, 13570-13587.	10.3	11
74	Comprehensive permeation analysis and mechanical resistance of electroless pore-plated Pd-membranes with ordered mesoporous ceria as intermediate layer. Separation and Purification Technology, 2021, 258, 118066.	7.9	10
75	Systematic experimental assessment of concentration polarization and inhibition in Pd-based membranes for hydrogen purification. Fuel Processing Technology, 2021, 213, 106661.	7.2	10
76	An enantiomeric pair of alkaline-earth metal based coordination polymers showing room temperature phosphorescence and circularly polarized luminescence. Journal of Materials Chemistry C, 2021, 9, 5544-5553.	5.5	10
77	Experimental evaluation and energy analysis of a two-step water splitting thermochemical cycle for solar hydrogen production based on La <sub>0.8</sub> Sr <sub>0.2</sub> CoO <sub>3-<math>\delta</math></sub> perovskite. International Journal of Hydrogen Energy, 2022, 47, 41209-41222.	7.1	10
78	Novel Perovskite Materials for Thermal Water Splitting at Moderate Temperature. ChemSusChem, 2019, 12, 4029-4037.	6.8	9
79	Life cycle assessment of H <sub>2</sub> -selective Pd membranes fabricated by electroless pore-plating. Journal of Cleaner Production, 2021, 316, 128229.	9.3	9
80	On the long-term stability of Pd-membranes with TiO <sub>2</sub> intermediate layers for H <sub>2</sub> purification. International Journal of Hydrogen Energy, 2022, 47, 11402-11416.	7.1	9
81	Pre-activation of SBA-15 intermediate barriers with Pd nuclei to increase thermal and mechanical resistances of pore-plated Pd-membranes. International Journal of Hydrogen Energy, 2021, 46, 20198-20212.	7.1	8
82	Thermochemical Energy Storage Using the Phase Transitions Brownmillerite -2H Perovskite - Cubic Perovskite in the Ca <sub>x</sub> Sr <sub>1-x</sub> CoO <sub>3-<math>\delta</math></sub> ( $x = 0$ and $T_j$ ET@0 0 0 rgBT /Overlo	7.1	8
83	Hydrogen production by thermochemical water splitting with La <sub>0.8</sub> Al <sub>0.2</sub> MeO <sub>3-<math>\delta</math></sub> (Me= Fe, Co, Ni and Cu) perovskites prepared under controlled pH. Catalysis Today, 2022, 390-391, 22-33.	4.4	8
84	Development of stable porous silica-coated Ca(OH) <sub>2</sub> / $\gamma$ -Al <sub>2</sub> O <sub>3</sub> pellets for dehydration/hydration cycles with application in thermochemical heat storage. Journal of Energy Storage, 2022, 51, 104548.	8.1	7
85	Stability of electroless pore-plated Pd-membranes in acetic acid steam membrane-reformers for ultra-pure hydrogen production. Fuel Processing Technology, 2021, 212, 106619.	7.2	6
86	Kidney-Protector Lipidic Cilastatin Derivatives as Structure-Directing Agents for the Synthesis of Mesoporous Silica Nanoparticles for Drug Delivery. International Journal of Molecular Sciences, 2021, 22, 7968.	4.1	6
87	Effective H <sub>2</sub> Separation through Electroless Pore-Plated Pd Membranes Containing Graphite Lead Barriers. Membranes, 2020, 10, 410.	3.0	4
88	Pd membranes by electroless pore-plating., 2020, , 31-62.		4
89	Versatile and Resistant Electroless Pore-Plated Pd-Membranes for H <sub>2</sub> -Separation: Morphology and Performance of Internal Layers in PSS Tubes. Membranes, 2022, 12, 530.	3.0	2
90	Designing nanocarriers to overcome the limitations in conventional drug administration for Parkinson's disease. Neural Regeneration Research, 2022, 17, 1743.	3.0	0