Fausto Gallucci

List of Publications by Citations

288 papers	7,237 citations	48 h-index	69 g-index
314 ext. papers	8,489 ext. citations	6.7 avg, IF	6.45 L-index

#	Paper	IF	Citations
288	Recent advances on membranes and membrane reactors for hydrogen production. *Chemical Engineering Science*, **2013**, 92, 40-66	4.4	459
287	A Search for Natural Hydrophobic Deep Eutectic Solvents Based on Natural Components. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 2933-2942	8.3	156
286	A simulation study of the steam reforming of methane in a dense tubular membrane reactor. *International Journal of Hydrogen Energy*, **2004**, 29, 611-617	6.7	149
285	An experimental study of CO2 hydrogenation into methanol involving a zeolite membrane reactor. *Chemical Engineering and Processing: Process Intensification*, **2004**, 43, 1029-1036	3.7	134
284	Experimental Study of the Methane Steam Reforming Reaction in a Dense Pd/Ag Membrane Reactor. *Industrial & Engineering Chemistry Research*, **2004**, 43, 928-933	3.9	116
283	An in-situ IR study on the adsorption of CO2 and H2O on hydrotalcites. *Journal of CO2 Utilization*, **2018**, 24, 228-239	7.6	113
282	Techno-economic assessment of membrane assisted fluidized bed reactors for pure H 2 production with CO 2 capture. *Energy Conversion and Management*, **2016**, 120, 257-273	10.6	95
281	Design and process study of Pd membrane reactors. *International Journal of Hydrogen Energy*, **2008**, 33, 5098-5105	6.7	93
280	Methanol and ethanol steam reforming in membrane reactors: An experimental study. *International Journal of Hydrogen Energy*, **2007**, 32, 1201-1210	6.7	89
279	Hydrogen production by methanol steam reforming carried out in membrane reactor on Cu/Zn/Mg-based catalyst. *Catalysis Today*, **2008**, 137, 17-22	5.3	87
278	Development of thin Pd□Ag supported membranes for fluidized bed membrane reactors including WGS related gases. *International Journal of Hydrogen Energy*, **2015**, 40, 3506-3519	6.7	86
277	Pd□Ag membrane reactor for steam reforming reactions: A comparison between different fuels. *International Journal of Hydrogen Energy*, **2008**, 33, 1671-1687	6.7	85
276	Theoretical comparison of packed bed and fluidized bed membrane reactors for methane reforming. *International Journal of Hydrogen Energy*, **2010**, 35, 7142-7150	6.7	82
275	The effect of mixture gas on hydrogen permeation through a palladium membrane: Experimental study and theoretical approach. *International Journal of Hydrogen Energy*, **2007**, 32, 1837-1845	6.7	78
274	Synthesis, Characterization, and Applications of Palladium Membranes. *Membrane Science and Technology*, **2008**, 255-323		76
273	Low temperature ethanol steam reforming in a Pd-Ag membrane reactorPart 1: Ru-based catalyst. *Journal of Membrane Science*, **2008**, 308, 250-257	9.6	76
272	Long-term tests of Pd□Ag thin wall permeator tube. *Journal of Membrane Science*, **2006**, 284, 393-397	9.6	76

271	A dense Pd/Ag membrane reactor for methanol steam reforming: Experimental study. *Catalysis Today*, **2005**, 104, 244-250	5.3	74
270	A novel reactor configuration for packed bed chemical-looping combustion of syngas. *International Journal of Greenhouse Gas Control*, **2013**, 16, 1-12	4.2	70
269	Steam Reforming of Methane in a Membrane Reactor: An Industrial Case Study. *Industrial & Engineering Chemistry Research*, **2006**, 45, 2994-3000	3.9	70
268	Pure hydrogen production via autothermal reforming of ethanol in a fluidized bed membrane reactor: A simulation study. *International Journal of Hydrogen Energy*, **2010**, 35, 1659-1668	6.7	68
267	Integration of coal gasification and packed bed CLC for high efficiency and near-zero emission power generation. *International Journal of Greenhouse Gas Control*, **2014**, 27, 28-41	4.2	67
266	Preparation and characterization of metallic supported thin Pd□Ag membranes for hydrogen separation. *Chemical Engineering Journal*, **2016**, 305, 182-190	14.7	63
265	A theoretical analysis of methanol synthesis from CO2 and H2 in a ceramic membrane reactor. *International Journal of Hydrogen Energy*, **2007**, 32, 5050-5058	6.7	63
264	Pd□Ag tubular membrane reactors for methane dry reforming: A reactive method for CO2 consumption and H2 production. *Journal of Membrane Science*, **2008**, 317, 96-105	9.6	63
263	A theoretical investigation of CLC in packed beds. Part 1: Particle model. *Chemical Engineering Journal*, **2011**, 167, 297-307	14.7	62
262	Integrated gasification gas combined cycle plant with membrane reactors: Technological and economical analysis. *Energy Conversion and Management*, **2007**, 48, 2680-2693	10.6	62
261	Autothermal Reforming of Methane with Integrated CO2 Capture in a Novel Fluidized Bed Membrane Reactor. Part 1: Experimental Demonstration. *Topics in Catalysis*, **2008**, 51, 133-145	2.3	62
260	Experimental study of steam methane reforming in a Pd-based fluidized bed membrane reactor. *Chemical Engineering Journal*, **2013**, 222, 307-320	14.7	60
259	Investigation of heat management for CLC of syngas in packed bed reactors. *Chemical Engineering Journal*, **2013**, 225, 174-191	14.7	59
258	Recent Advances in Pd-Based Membranes for Membrane Reactors. *Molecules*, **2017**, 22,	4.8	59
257	Co-current and counter-current modes for methanol steam reforming membrane reactor: Experimental study. *Catalysis Today*, **2006**, 118, 237-245	5.3	59
256	Recent Progress of Plasma-Assisted Nitrogen Fixation Research: A Review. *Processes*, **2018**, 6, 248	2.9	58
255	Comparison on process efficiency for CLC of syngas operated in packed bed and fluidized bed reactors. *International Journal of Greenhouse Gas Control*, **2014**, 28, 65-78	4.2	57
254	Acetic acid steam reforming in a Pd□Ag membrane reactor: The effect of the catalytic bed pattern. *Journal of Membrane Science*, **2008**, 311, 46-52	9.6	57

253	A theoretical investigation of CLC in packed beds. Part 2: Reactor model. *Chemical Engineering Journal*, **2011**, 167, 369-376	14.7	56
252	Experimental Investigation of Chemical-Looping Combustion in Packed Beds: A Parametric Study. *Industrial & Engineering Chemistry Research*, **2011**, 50, 1968-1980	3.9	56
251	Synthesis of luminescent carbon quantum dots by microplasma process. *Chemical Engineering and Processing: Process Intensification*, **2019**, 140, 29-35	3.7	53
250	An experimental investigation on methanol steam reforming with oxygen addition in a flat Pd□Ag membrane reactor. *International Journal of Hydrogen Energy*, **2006**, 31, 1615-1622	6.7	53
249	Real time chemical imaging of a working catalytic membrane reactor during oxidative coupling of methane. *Chemical Communications*, **2015**, 51, 12752-5	5.8	52
248	Hydrogen Recovery from Methanol Steam Reforming in a Dense Membrane Reactor: Simulation Study. *Industrial & Engineering Chemistry Research*, **2004**, 43, 2420-2432	3.9	52
247	PC-SAFT modeling of CO2 solubilities in hydrophobic deep eutectic solvents. *Fluid Phase Equilibria*, **2017**, 448, 94-98	2.5	50
246	Thermodynamic analysis of a membrane-assisted chemical looping reforming reactor concept for combined H2 production and CO2 capture. *International Journal of Hydrogen Energy*, **2014**, 39, 4725-4738	6.7	50
245	Hydrogen production from methanol by oxidative steam reforming carried out in a membrane reactor. *Catalysis Today*, **2005**, 104, 251-259	5.3	50
244	Preparation and characterization of thin-film Pd□Ag supported membranes for high-temperature applications. *International Journal of Hydrogen Energy*, **2015**, 40, 13463-13478	6.7	49
243	The generality of the standard 2D TFM approach in predicting bubbling fluidized bed hydrodynamics. *Powder Technology*, **2013**, 235, 735-746	5.2	49
242	Techno-economic assessment of different routes for olefins production through the oxidative coupling of methane (OCM): Advances in benchmark technologies. *Energy Conversion and Management*, **2017**, 154, 244-261	10.6	48
241	Ethanol steam reforming in a dense Pd□Ag membrane reactor: A modelling work. Comparison with the traditional system. *International Journal of Hydrogen Energy*, **2008**, 33, 644-651	6.7	48
240	Determination of the Total Vapor Pressure of Hydrophobic Deep Eutectic Solvents: Experiments and Perturbed-Chain Statistical Associating Fluid Theory Modeling. *ACS Sustainable Chemistry and Engineering*, **2019**, 7, 4047-4057	8.3	47
239	An Ru-based catalytic membrane reactor for dry reforming of methane□Its catalytic performance compared with tubular packed bed reactors. *Catalysis Today*, **2003**, 82, 57-65	5.3	47
238	Preparation and characterization of ceramic supported ultra-thin (~1 □m) Pd-Ag membranes. *Journal of Membrane Science*, **2017**, 528, 12-23	9.6	46
237	Co-current and counter-current modes for water gas shift membrane reactor. *Catalysis Today*, **2003**, 82, 275-281	5.3	45
236	Reactor design and operation strategies for a large-scale packed-bed CLC power plant with coal syngas. *International Journal of Greenhouse Gas Control*, **2015**, 36, 34-50	4.2	44

235	Chemisorption working capacity and kinetics of CO2 and H2O of hydrotalcite-based adsorbents for sorption-enhanced water-gas-shift applications. *Chemical Engineering Journal*, **2016**, 293, 9-23	14.7	44
234	Experimental Demonstration of a Novel Gas Switching Combustion Reactor for Power Production with Integrated CO2 Capture. *Industrial & Engineering Chemistry Research*, **2013**, 52, 14241-14250	3.9	44
233	Syngas upgrading in a membrane reactor with thin Pd-alloy supported membrane. *International Journal of Hydrogen Energy*, **2015**, 40, 10883-10893	6.7	43
232	Co-current and counter-current configurations for ethanol steam reforming in a dense Pd□Ag membrane reactor. *International Journal of Hydrogen Energy*, **2008**, 33, 6165-6171	6.7	43
231	Investigation of the process operability windows for Ca-Cu looping for hydrogen production with CO2 capture. *Chemical Engineering Journal*, **2016**, 303, 73-88	14.7	43
230	CLC in packed beds using syngas and CuO/Al2O3: Model description and experimental validation. *Applied Energy*, **2014**, 119, 163-172	10.7	42
229	On the influence of steam on the CO2 chemisorption capacity of a hydrotalcite-based adsorbent for SEWGS applications. *Chemical Engineering Journal*, **2017**, 314, 554-569	14.7	41
228	Pd-based metallic supported membranes: High-temperature stability and fluidized bed reactor testing. *International Journal of Hydrogen Energy*, **2016**, 41, 8706-8718	6.7	41
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226	Micro-structured fluidized bed membrane reactors: Solids circulation and densified zones distribution. *Chemical Engineering Journal*, **2014**, 239, 42-52	14.7	40
225	Low-temperature ethanol steam reforming in a Pd□Ag membrane reactorPart 2. Pt-based and Ni-based catalysts and general comparison. *Journal of Membrane Science*, **2008**, 308, 258-263	9.6	40
224	Mixed Ionic-Electronic Conducting Membranes (MIEC) for Their Application in Membrane Reactors: A Review. *Processes*, **2019**, 7, 128	2.9	39
223	Thermodynamic properties of hydrophobic deep eutectic solvents and solubility of water and HMF in them: Measurements and PC-SAFT modeling. *Fluid Phase Equilibria*, **2019**, 489, 75-82	2.5	39
222	Experimental demonstration of chemical-looping combustion of syngas in packed bed reactors with ilmenite. *Chemical Engineering Journal*, **2015**, 274, 156-168	14.7	39
221	Experimental Investigation of a CuO/Al2O3 Oxygen Carrier for Chemical-Looping Combustion. *Industrial & Engineering Chemistry Research*, **2010**, 49, 9720-9728	3.9	39
220	Plasma assisted nitrogen oxide production from air: Using pulsed powered gliding arc reactor for a containerized plant. *AICHE Journal*, **2018**, 64, 526-537	3.6	38
219	CO-Free Hydrogen Production by Ethanol Steam Reforming in a Pd□Ag Membrane Reactor. *Fuel Cells*, **2008**, 8, 62-68	2.9	38
218	NiO/CaAl2O4 as active oxygen carrier for low temperature chemical looping applications. *Applied Energy*, **2015**, 158, 86-96	10.7	37

217	Selective separation of furfural and hydroxymethylfurfural from an aqueous solution using a supported hydrophobic deep eutectic solvent liquid membrane. *Faraday Discussions*, **2017**, 206, 77-92	3.6	36
216	Autothermal Reforming of Methane with Integrated CO2 Capture in a Novel Fluidized Bed Membrane Reactor. Part 2 Comparison of Reactor Configurations. *Topics in Catalysis*, **2008**, 51, 146-157	2.3	36
215	Recent progress in developments of membrane materials and modification techniques for high performance helium separation and recovery: A review. *Chemical Engineering and Processing: Process Intensification*, **2017**, 122, 296-318	3.7	35
214	Thermophysical Properties and Solubility of Different Sugar-Derived Molecules in Deep Eutectic Solvents. *Journal of Chemical & Engineering Data*, **2017**, 62, 3633-3641	2.8	35
213	The effect of the hydrogen flux pressure and temperature dependence factors on the membrane reactor performances. *International Journal of Hydrogen Energy*, **2007**, 32, 4052-4058	6.7	35
212	Hydrogen production with integrated CO 2 capture in a novel gas switching reforming reactor: Proof-of-concept. *International Journal of Hydrogen Energy*, **2017**, 42, 14367-14379	6.7	34
211	Achievements of European projects on membrane reactor for hydrogen production. *Journal of Cleaner Production*, **2017**, 161, 1442-1450	10.3	34
210	Experimental and modelling study of an electrochemical hydrogen compressor. *Chemical Engineering Journal*, **2019**, 369, 432-442	14.7	34
209	Hydrogen production with integrated CO2 capture in a membrane assisted gas switching reforming reactor: Proof-of-Concept. *International Journal of Hydrogen Energy*, **2018**, 43, 6177-6190	6.7	34
208	On concentration polarisation in a fluidized bed membrane reactor for biogas steam reforming: Modelling and experimental validation. *Chemical Engineering Journal*, **2018**, 348, 232-243	14.7	34
207	Co-current and counter-current modes for methanol steam reforming membrane reactor. *International Journal of Hydrogen Energy*, **2006**, 31, 2243-2249	6.7	34
206	Fluidized Bed Membrane Reactors for Ultra Pure H Production--A Step forward towards Commercialization. *Molecules*, **2016**, 21, 376	4.8	34
205	Enhancing Pt-Ni/CeO2 performances for ethanol reforming by catalyst supporting on high surface silica. *Catalysis Today*, **2018**, 307, 175-188	5.3	33
204	PtNi based catalyst for ethanol reforming in a fluidized bed membrane reactor. *International Journal of Hydrogen Energy*, **2016**, 41, 20122-20136	6.7	33
203	Energy analysis of two stage packed-bed chemical looping combustion configurations for integrated gasification combined cycles. *Energy*, **2015**, 85, 489-502	7.9	31
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201	3D printed versus spherical adsorbents for gas sweetening. *Chemical Engineering Journal*, **2019**, 357, 309-319	14.7	30
200	Techno-economic assessment of an integrated high pressure chemical-looping process with packed-bed reactors in large scale hydrogen and methanol production. *International Journal of Greenhouse Gas Control*, **2019**, 88, 71-84	4.2	29

199	A kinetics study for the oxidative coupling of methane on a Mn/Na2WO4/SiO2 catalyst. *Applied Catalysis A: General*, **2012**, 433-434, 96-108	5.1	29
198	Ethanol steam reforming kinetics of a PdAg membrane reactor. *International Journal of Hydrogen Energy*, **2009**, 34, 4747-4754	6.7	29
197	The effect of heat-flux profile and of other geometric and operating variables in designing industrial membrane methane steam reformers. *Chemical Engineering Journal*, **2008**, 138, 442-451	14.7	29
196	Resource scarcity in palladium membrane applications for carbon capture in integrated gasification combined cycle units. *International Journal of Hydrogen Energy*, **2014**, 39, 10498-10506	6.7	27
195	Development of Pd-based double-skinned membranes for hydrogen production in fluidized bed membrane reactors. *Journal of Membrane Science*, **2018**, 550, 536-544	9.6	27
194	Revealing the arc dynamics in a gliding arc plasmatron: a better insight to improve CO2conversion. *Plasma Sources Science and Technology*, **2017**, 26, 125002	3.5	26
193	Techno-economic assessment of membrane-assisted gas switching reforming for pure H2 production with CO2 capture. *International Journal of Greenhouse Gas Control*, **2018**, 72, 163-174	4.2	25
192	Effect of Au addition on hydrogen permeation and the resistance to H2S on Pd-Ag alloy membranes. *Journal of Membrane Science*, **2017**, 542, 329-341	9.6	25
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188	Attrition-resistant membranes for fluidized-bed membrane reactors: Double-skin membranes. *Journal of Membrane Science*, **2018**, 563, 419-426	9.6	24
187	TiNiPd dense membranesThe effect of the gas mixtures on the hydrogen permeation. *Journal of Membrane Science*, **2008**, 310, 44-50	9.6	24
186	Reactivity of Oxygen Carriers for Chemical-Looping Combustion in Packed Bed Reactors under Pressurized Conditions. *Energy & Fuels*, **2015**, 29, 2656-2663	4.1	23
185	Synthesis of N-doped carbon dots via a microplasma process. *Chemical Engineering Science*, **2020**, 220, 115648	4.4	23
184	Methane partial oxidation over a LaCr 0.85 Ru 0.15 O 3 catalyst: Characterization, activity tests and kinetic modeling. *Applied Catalysis A: General*, **2014**, 486, 239-249	5.1	23
183	H2 production via ammonia decomposition in a catalytic membrane reactor. *Fuel Processing Technology*, **2021**, 216, 106772	7.2	23
182	Plasma Assisted Catalytic Conversion of CO2 and H2O Over Ni/Al2O3 in a DBD Reactor. *Plasma Chemistry and Plasma Processing*, **2019**, 39, 109-124	3.6	23

181	Effect of sweep gas on hydrogen permeation of supported Pd membranes: Experimental and modeling. *International Journal of Hydrogen Energy*, **2019**, 44, 4228-4239	6.7	22
180	Techno-economic evaluation on a hybrid technology for low hydrogen concentration separation and purification from natural gas grid. *International Journal of Hydrogen Energy*, **2020**, 46, 23417-23417	6.7	22
179	Evaluation of a Direct Air Capture Process Combining Wet Scrubbing and Bipolar Membrane Electrodialysis. *Industrial & Engineering Chemistry Research*, **2020**, 59, 7007-7020	3.9	22
178	Gas back-mixing study in a membrane-assisted micro-structured fluidized bed. *Chemical Engineering Science*, **2014**, 108, 194-202	4.4	22
177	**2011**,		22
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175	Methane pyrolysis in a molten gallium bubble column reactor for sustainable hydrogen production: Proof of concept & techno-economic assessment. *International Journal of Hydrogen Energy*, **2021**, 46, 4917-4935	6.7	22
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170	Modeling and optimization of hydrogenation of CO2: Estimation of kinetic parameters via Artificial Bee Colony (ABC) and Differential Evolution (DE) algorithms. *International Journal of Hydrogen Energy*, **2019**, 44, 4630-4649	6.7	20
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168	Comparison of conventional and spherical reactor for the industrial auto-thermal reforming of methane to maximize synthesis gas and minimize CO2. *International Journal of Hydrogen Energy*, **2017**, 42, 19798-19809	6.7	20
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166	Influence of material composition on the CO2 and H2O adsorption capacities and kinetics of potassium-promoted sorbents. *Chemical Engineering Journal*, **2018**, 334, 2115-2123	14.7	20
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164	Chemical Looping Technologies for H2 Production With CO2 Capture: Thermodynamic Assessment and Economic Comparison. *Energy Procedia*, **2017**, 114, 419-428	2.3	19

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161	Characterization of a nitrogen gliding arc plasmatron using optical emission spectroscopy and high-speed camera. *Journal Physics D: Applied Physics*, **2019**, 52, 065201	3	19
160	Long-Term Stability of Thin-Film Pd-Based Supported Membranes. *Processes*, **2019**, 7, 106	2.9	18
159	Experimental demonstration of CLC and the pressure effect in packed bed reactors using NiO/CaAl2O4 as oxygen carrier. *Fuel*, **2015**, 159, 828-836	7.1	18
158	New high temperature sealing technique and permeability data for hollow fiber BSCF perovskite membranes. *Chemical Engineering and Processing: Process Intensification*, **2016**, 107, 206-219	3.7	17
157	Development of a RhZrO2 catalyst for low temperature autothermal reforming of methane in membrane reactors. *Catalysis Today*, **2014**, 236, 23-33	5.3	17
156	Virtual reality in chemical and biochemical engineering education and training. *Education for Chemical Engineers*, **2021**, 36, 143-153	2.4	17
155	Definition of validated membrane reactor model for 5 kW power output CHP system for different natural gas compositions. *International Journal of Hydrogen Energy*, **2016**, 41, 19141-19153	6.7	17
154	Modeling of autothermal reforming of methane in a fluidized bed reactor with perovskite membranes. *Chemical Engineering and Processing: Process Intensification*, **2018**, 124, 308-318	3.7	17
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147	Hydrogen safety risk assessment methodology applied to a fluidized bed membrane reactor for autothermal reforming of natural gas. *International Journal of Hydrogen Energy*, **2015**, 40, 10090-10102	6.7	14
146	On the effect of gas pockets surrounding membranes in fluidized bed membrane reactors: An experimental and numerical study. *Chemical Engineering Journal*, **2015**, 282, 45-57	14.7	14

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138	Progress in spherical packed-bed reactors: Opportunities for refineries and chemical industries. *Chemical Engineering and Processing: Process Intensification*, **2018**, 132, 16-24	3.7	13
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136	Solar membrane natural gas steam-reforming process: evaluation of reactor performance. *Asia-Pacific Journal of Chemical Engineering*, **2010**, 5, 179-190	1.3	13
135	Latest Developments in Membrane (Bio)Reactors. *Processes*, **2020**, 8, 1239	2.9	13
134	Mixed matrix membranes for hydrocarbons separation and recovery: a critical review. *Reviews in Chemical Engineering*, **2021**, 37, 363-406	5	13
133	Integration of solid oxide fuel cell (SOFC) and chemical looping combustion (CLC) for ultra-high efficiency power generation and CO2 production. *International Journal of Greenhouse Gas Control*, **2018**, 71, 9-19	4.2	12
132	Gas mixing study in freely bubbling and turbulent gas□olid fluidized beds with a novel infrared technique coupled with digital image analysis. *Chemical Engineering Science*, **2014**, 116, 38-48	4.4	12
131	Experimental Demonstration of Two-Stage Packed Bed Chemical-Looping Combustion Using Syngas with CuO/Al2O3 and NiO/CaAl2O4 as Oxygen Carriers. *Industrial & Engineering Chemistry Research*, **2015**, 54, 2001-2011	3.9	12
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127	Gas Switching as a Practical Alternative for Scaleup of Chemical Looping Combustion. *Energy Technology*, **2016**, 4, 1286-1298	3.5	12
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