

# Aravind V Rayer

## List of Publications by Year in descending order

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33  
papers

1,071  
citations

394286

19  
h-index

414303

32  
g-index

33  
all docs

33  
docs citations

33  
times ranked

981  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dissociation Constants ( $pK_a$ ) of Tertiary and Cyclic Amines: Structural and Temperature Dependences. <i>Journal of Chemical &amp; Engineering Data</i> , 2014, 59, 3805-3813.	1.0	113
2	Kinetics of carbon dioxide (CO <sub>2</sub> ) with ethylenediamine, 3-amino-1-propanol in methanol and ethanol, and with 1-dimethylamino-2-propanol and 3-dimethylamino-1-propanol in water using stopped-flow technique. <i>Chemical Engineering Journal</i> , 2012, 179, 262-271.	6.6	109
3	High pressure solubility of carbon dioxide (CO <sub>2</sub> ) in aqueous piperazine solutions. <i>Fluid Phase Equilibria</i> , 2010, 292, 20-28.	1.4	81
4	Part 5b: Solvent chemistry: reaction kinetics of CO <sub>2</sub> absorption into reactive amine solutions. <i>Carbon Management</i> , 2012, 3, 201-220.	1.2	60
5	Demonstration of a Concentrated Potassium Carbonate Process for CO <sub>2</sub> Capture. <i>Energy &amp; Fuels</i> , 2014, 28, 299-306.	2.5	58
6	Part 5c: Solvent chemistry: solubility of CO <sub>2</sub> in reactive solvents for post-combustion CO <sub>2</sub> . <i>Carbon Management</i> , 2012, 3, 467-484.	1.2	47
7	A single-component water-lean post-combustion CO <sub>2</sub> capture solvent with exceptionally low operational heat and total costs of capture – comprehensive experimental and theoretical evaluation. <i>Energy and Environmental Science</i> , 2020, 13, 4106-4113.	15.6	47
8	Heats of Absorption of CO <sub>2</sub> in Aqueous Solutions of Tertiary Amines: <i>N</i> -Methyldiethanolamine, 3-Dimethylamino-1-propanol, and 1-Dimethylamino-2-propanol. <i>Industrial &amp; Engineering Chemistry Research</i> , 2014, 53, 4953-4965.	1.8	41
9	High pressure physical solubility of carbon dioxide (CO <sub>2</sub> ) in mixed polyethylene glycol dimethyl ethers (Genosorb 1753). <i>Canadian Journal of Chemical Engineering</i> , 2012, 90, 576-583.	0.9	40
10	Effect of moisture on the heat capacity and the regeneration heat required for CO <sub>2</sub> capture process using PEI impregnated mesoporous precipitated silica. , 2015, 5, 91-101.		39
11	Physicochemical properties of {1-methyl piperazine (1) + water (2)} system at T= (298.15 to 343.15) K and atmospheric pressure. <i>Journal of Chemical Thermodynamics</i> , 2011, 43, 1897-1905.	1.0	35
12	Volumetric properties, viscosities, refractive indices and surface tensions for (dimethylpropanolamine (DMPA) + water) mixtures from 298.15 K to 343.15 K. <i>Thermochimica Acta</i> , 2012, 543, 218-225.	1.2	35
13	Volumetric Properties, Viscosities, and Refractive Indices for Aqueous 1-Amino-2-Propanol (Monoisopropanolamine (MIPA)) Solutions from (298.15 to 343.15) K. <i>Journal of Chemical &amp; Engineering Data</i> , 2010, 55, 5562-5568.	1.0	34
14	Kinetics of the reaction of carbon dioxide (CO <sub>2</sub> ) with cyclic amines using the stopped-flow technique. <i>Energy Procedia</i> , 2011, 4, 140-147.	1.8	32
15	Electrochemical carbon dioxide reduction to isopropanol using novel carbonized copper metal organic framework derived electrodes. <i>Journal of CO<sub>2</sub> Utilization</i> , 2020, 39, 101159.	3.3	30
16	Reaction kinetics of ((2-aminoethyl) amino) ethanol in aqueous and non-aqueous solutions using the stopped-flow technique. <i>Canadian Journal of Chemical Engineering</i> , 2013, 91, 490-498.	0.9	29
17	Reaction Kinetics of Carbon Dioxide (CO <sub>2</sub> ) Absorption in Sodium Salts of Taurine and Proline Using a Stopped-Flow Technique. <i>International Journal of Chemical Kinetics</i> , 2014, 46, 730-745.	1.0	28
18	Impregnation of Amines Onto Porous Precipitated Silica for CO <sub>2</sub> capture. <i>Energy Procedia</i> , 2014, 63, 2122-2128.	1.8	24

#	ARTICLE	IF	CITATIONS
19	CO <sub>2</sub> Capture Using Fluorinated Hydrophobic Solvents. Industrial & Engineering Chemistry Research, 2017, 56, 11958-11966.	1.8	24
20	Absorption rates of carbon dioxide in amines in hydrophilic and hydrophobic solvents. Chemical Engineering Journal, 2018, 348, 514-525.	6.6	24
21	High-Pressure Solubility of Methane (CH <sub>4</sub> ) and Ethane (C <sub>2</sub> H <sub>6</sub> ) in Mixed Polyethylene Glycol Dimethyl Ethers (Genosorb 1753) and Its Selectivity in Natural Gas Sweetening Operations. Journal of Chemical & Engineering Data, 2012, 57, 764-775.	1.0	18
22	Molar heat capacities of solvents used in CO <sub>2</sub> capture: A group additivity and molecular connectivity analysis. Canadian Journal of Chemical Engineering, 2012, 90, 367-376.	0.9	18
23	The Kinetic Effect of Adding Piperazine Activator to Aqueous Tertiary and Sterically-hindered Amines Using Stopped-flow Technique. Energy Procedia, 2014, 63, 1256-1267.	1.8	16
24	High-Pressure Solubility of Carbon Dioxide (CO <sub>2</sub> ) in Aqueous 1-Methyl Piperazine Solution. Journal of Chemical & Engineering Data, 2014, 59, 3610-3623.	1.0	16
25	Potential for the Simultaneous Capture and Utilization of CO <sub>2</sub> Using Desalination Reject Brine: Amine Solvent Selection and Evaluation. Energy Procedia, 2014, 63, 7947-7953.	1.8	15
26	Task-Specific Ionic Liquids Functionalized by Cobalt(II) Salen for Room Temperature Biomimetic Dioxygen Binding. Industrial & Engineering Chemistry Research, 2019, 58, 334-341.	1.8	11
27	Challenges in Predicting $\hat{\gamma}_{rxnG}$ in Solution: The Mechanism of Ether-Catalyzed Hydroboration of Alkenes. Journal of Physical Chemistry A, 2014, 118, 11768-11779.	1.1	10
28	Experimental Study of a Hydrophobic Solvent for Natural Gas Sweetening Based on the Solubility and Selectivity for Light Hydrocarbons (CH <sub>4</sub> , C <sub>2</sub> H <sub>6</sub> ) and Acid Gases (CO <sub>2</sub> and H <sub>2</sub> S) at 298–353 K. Journal of Chemical & Engineering Data, 2019, 64, 545-556.	1.0	9
29	Results from a Pilot Plant Using Un-promoted Potassium Carbonate for Carbon Capture. Energy Procedia, 2013, 37, 448-454.	1.8	7
30	Molar Heat Capacity ( $C_p$ ) of Aqueous Cyclic Amine Solutions from (298.15 to) Tj ETQq0,0,0 rgBT /Overlock 1	1.0	7
31	Heat of Absorption and Specific Heat of Carbon Dioxide in Aqueous Solutions of Monoethanolamine,3-piperidinemethanol and Their Blends. Energy Procedia, 2014, 63, 2070-2081.	1.8	7
32	Molar excess enthalpy (HmE) for systems of aqueous piperazine derivatives. Journal of Chemical Thermodynamics, 2015, 90, 242-250.	1.0	5
33	Lab-scaled performance evaluation of novel water-lean solvents for post combustion CO <sub>2</sub> capture. International Journal of Greenhouse Gas Control, 2021, 111, 103469.	2.3	2