

Nita Sahai

List of Publications by Year in descending order

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Version: 2024-02-01

81
papers

4,456
citations

109321

35
h-index

106344

65
g-index

82
all docs

82
docs citations

82
times ranked

5293
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanominerals, Mineral Nanoparticles, and Earth Systems. <i>Science</i> , 2008, 319, 1631-1635.	12.6	768
2	Theoretical prediction of single-site surface-protonation equilibrium constants for oxides and silicates in water. <i>Geochimica Et Cosmochimica Acta</i> , 1996, 60, 3773-3797.	3.9	359
3	Evaluation of internally consistent parameters for the triple-layer model by the systematic analysis of oxide surface titration data. <i>Geochimica Et Cosmochimica Acta</i> , 1997, 61, 2801-2826.	3.9	218
4	Mineral-organic interfacial processes: potential roles in the origins of life. <i>Chemical Society Reviews</i> , 2012, 41, 5502.	38.1	205
5	X-Ray Absorption Spectroscopy of Strontium(II) Coordination. <i>Journal of Colloid and Interface Science</i> , 2000, 222, 198-212.	9.4	141
6	Solvation and electrostatic model for specific electrolyte adsorption. <i>Geochimica Et Cosmochimica Acta</i> , 1997, 61, 2827-2848.	3.9	127
7	Role of Fe(II), phosphate, silicate, sulfate, and carbonate in arsenic uptake by coprecipitation in synthetic and natural groundwater. <i>Water Research</i> , 2008, 42, 615-624.	11.3	95
8	How Does Bone Sialoprotein Promote the Nucleation of Hydroxyapatite? A Molecular Dynamics Study Using Model Peptides of Different Conformations. <i>Langmuir</i> , 2010, 26, 9848-9859.	3.5	89
9	Molecular mechanisms for intrafibrillar collagen mineralization in skeletal tissues. <i>Biomaterials</i> , 2015, 39, 59-66.	11.4	89
10	Is Silica Really an Anomalous Oxide? Surface Acidity and Aqueous Hydrolysis Revisited. <i>Environmental Science & Technology</i> , 2002, 36, 445-452.	10.0	87
11	X-Ray Absorption Spectroscopy of Strontium(II) Coordination. <i>Journal of Colloid and Interface Science</i> , 2000, 222, 184-197.	9.4	84
12	Effects of pseudowollastonite (CaSiO ₃) bioceramic on in vitro activity of human mesenchymal stem cells. <i>Biomaterials</i> , 2010, 31, 7653-7665.	11.4	84
13	The effects of laser shock peening on the mechanical properties and biomedical behavior of AZ31B magnesium alloy. <i>Surface and Coatings Technology</i> , 2018, 339, 48-56.	4.8	78
14	Inorganic synthesis of Fe-Ca-Mg carbonates at low temperature. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 5361-5376.	3.9	73
15	Cyclic silicate active site and stereochemical match for apatite nucleation on pseudowollastonite bioceramic-bone interfaces. <i>Biomaterials</i> , 2005, 26, 5763-5770.	11.4	68
16	Amine-Catalyzed Biomimetic Hydrolysis and Condensation of Organosilicate. <i>Chemistry of Materials</i> , 2005, 17, 3221-3227.	6.7	68
17	Theoretical prediction of single-site enthalpies of surface protonation for oxides and silicates in water. <i>Geochimica Et Cosmochimica Acta</i> , 1998, 62, 3703-3716.	3.9	65
18	A potential mechanism for amino acid-controlled crystal growth of hydroxyapatite. <i>Journal of Materials Chemistry B</i> , 2015, 3, 9157-9167.	5.8	65

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19	Calculating the acidity of silanols and related oxyacids in aqueous solution. <i>Geochimica Et Cosmochimica Acta</i> , 2000, 64, 4097-4113.	3.9	62
20	Molecular Orbital Study of Apatite (Ca ₅ (PO ₄) ₃ OH) Nucleation at Silica Bioceramic Surfaces. <i>Journal of Physical Chemistry B</i> , 2000, 104, 4322-4341.	2.6	62
21	Role of Fe(II) and phosphate in arsenic uptake by coprecipitation. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 3193-3210.	3.9	62
22	Surface amorphization of NiTi alloy induced by Ultrasonic Nanocrystal Surface Modification for improved mechanical properties. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 53, 455-462.	3.1	60
23	Orthosilicic acid, Si(OH) ₄ , stimulates osteoblast differentiation in vitro by upregulating miR-146a to antagonize NF- κ B activation. <i>Acta Biomaterialia</i> , 2016, 39, 192-202.	8.3	59
24	Interactions of Silicate Ions with Zinc(II) and Aluminum(III) in Alkaline Aqueous Solution. <i>Inorganic Chemistry</i> , 2005, 44, 8023-8032.	4.0	56
25	Surface Energetics of the Hydroxyapatite Nanocrystal-Water Interface: A Molecular Dynamics Study. <i>Langmuir</i> , 2014, 30, 13283-13292.	3.5	56
26	GEOSURF: a computer program for modeling adsorption on mineral surfaces from aqueous solution. <i>Computers and Geosciences</i> , 1998, 24, 853-873.	4.2	53
27	Reactive oxygen species at the oxide/water interface: Formation mechanisms and implications for prebiotic chemistry and the origin of life. <i>Earth and Planetary Science Letters</i> , 2013, 363, 156-167.	4.4	50
28	Silicates in orthopedics and bone tissue engineering materials. <i>Journal of Biomedical Materials Research - Part A</i> , 2017, 105, 2090-2102.	4.0	50
29	A systematic study of mechanical properties, corrosion behavior and biocompatibility of AZ31B Mg alloy after ultrasonic nanocrystal surface modification. <i>Materials Science and Engineering C</i> , 2017, 78, 1061-1071.	7.3	49
30	Small molecule-mediated control of hydroxyapatite growth: Free energy calculations benchmarked to density functional theory. <i>Journal of Computational Chemistry</i> , 2014, 35, 70-81.	3.3	42
31	Role of Oxide Surface Chemistry and Phospholipid Phase on Adsorption and Self-Assembly: Isotherms and Atomic Force Microscopy. <i>Journal of Physical Chemistry C</i> , 2009, 113, 2187-2196.	3.1	40
32	Bactericidal Peptidomimetic Polyurethanes with Remarkable Selectivity against <i>Escherichia coli</i> . <i>ACS Biomaterials Science and Engineering</i> , 2017, 3, 2588-2597.	5.2	40
33	Predicting the Structure-Activity Relationship of Hydroxyapatite-Binding Peptides by Enhanced-Sampling Molecular Simulation. <i>Langmuir</i> , 2016, 32, 7009-7022.	3.5	39
34	Oxide-Dependent Adsorption of a Model Membrane Phospholipid, Dipalmitoylphosphatidylcholine: Bulk Adsorption Isotherms. <i>Langmuir</i> , 2008, 24, 4865-4873.	3.5	37
35	Mineral Surface Chemistry and Nanoparticle-aggregation Control Membrane Self-Assembly. <i>Scientific Reports</i> , 2017, 7, 43418.	3.3	37
36	Adsorption of l-glutamic acid and l-aspartic acid to β -Al ₂ O ₃ . <i>Geochimica Et Cosmochimica Acta</i> , 2014, 133, 142-155.	3.9	36

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37	Structure analysis of collagen fibril at atomic-level resolution and its implications for intra-fibrillar transport in bone biomineralization. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 1513-1523.	2.8	33
38	Interaction energies between oxide surfaces and multiple phosphatidylcholine bilayers from extended-DLVO theory. <i>Journal of Colloid and Interface Science</i> , 2010, 352, 316-326.	9.4	32
39	Biological Response of and Blood Plasma Protein Adsorption on Silver-Doped Hydroxyapatite. <i>ACS Biomaterials Science and Engineering</i> , 2019, 5, 561-571.	5.2	32
40	Crystal structures of CaSiO ₃ polymorphs control growth and osteogenic differentiation of human mesenchymal stem cells on bioceramic surfaces. <i>Biomaterials Science</i> , 2013, 1, 1101.	5.4	31
41	Incubating Life: Prebiotic Sources of Organics for the Origin of Life. <i>Elements</i> , 2016, 12, 401-406.	0.5	31
42	Bacterial Membrane Selective Antimicrobial Peptide-Mimetic Polyurethanes: Structure-Property Correlations and Mechanisms of Action. <i>Biomacromolecules</i> , 2019, 20, 4096-4106.	5.4	31
43	Biomembrane Phospholipid-Oxide Surface Interactions: Crystal Chemical and Thermodynamic Basis. <i>Journal of Colloid and Interface Science</i> , 2002, 252, 309-319.	9.4	30
44	Mechanisms of Amine-Catalyzed Organosilicate Hydrolysis at Circum-Neutral pH. <i>Journal of Physical Chemistry B</i> , 2006, 110, 17819-17829.	2.6	28
45	The Transition from Geochemistry to Biogeochemistry. <i>Elements</i> , 2016, 12, 389-394.	0.5	28
46	Mineral-Lipid Interactions in the Origins of Life. <i>Trends in Biochemical Sciences</i> , 2019, 44, 331-341.	7.5	28
47	Arsenic Occurrence, Mobility, and Retardation in Sandstone and Dolomite Formations of the Fox River Valley, Eastern Wisconsin. <i>Environmental Science & Technology</i> , 2004, 38, 5087-5094.	10.0	27
48	Formation energies and NMR chemical shifts calculated for putative serine-silicate complexes in silica biomineralization. <i>Geochimica Et Cosmochimica Acta</i> , 2001, 65, 2043-2053.	3.9	26
49	Electrostatic effects on deposition of multiple phospholipid bilayers at oxide surfaces. <i>Journal of Colloid and Interface Science</i> , 2010, 352, 327-336.	9.4	26
50	Did Mineral Surface Chemistry and Toxicity Contribute to Evolution of Microbial Extracellular Polymeric Substances?. <i>Astrobiology</i> , 2012, 12, 785-798.	3.0	25
51	Aqueous magnesium as an environmental selection pressure in the evolution of phospholipid membranes on early earth. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 223, 216-228.	3.9	24
52	Calculation of ²⁹ Si NMR shifts of silicate complexes with carbohydrates, amino acids, and muhicarboxylic acids: potential role in biological silica utilization. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 227-237.	3.9	23
53	A computational study of Mg ²⁺ dehydration in aqueous solution in the presence of HS ⁻ and other monovalent anions - Insights to dolomite formation. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 88, 77-87.	3.9	23
54	Biomimetic and nanostructured hybrid bioactive glass. <i>Biomaterials</i> , 2015, 50, 1-9.	11.4	22

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55	Theoretical Study of Bone Sialoprotein in Bone Biomineralization. <i>Cells Tissues Organs</i> , 2011, 194, 182-187.	2.3	21
56	Quantitatively Identifying the Roles of Interfacial Water and Solid Surface in Governing Peptide Adsorption. <i>Langmuir</i> , 2018, 34, 7932-7941.	3.5	21
57	Isoexergonic Conformations of Surface-Bound Citrate Regulated Bioinspired Apatite Nanocrystal Growth. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 28116-28123.	8.0	20
58	Hierarchical structures on nickel-titanium fabricated by ultrasonic nanocrystal surface modification. <i>Materials Science and Engineering C</i> , 2018, 93, 12-20.	7.3	20
59	Oxide-Dependent Adhesion of the Jurkat Line of T Lymphocytes. <i>Langmuir</i> , 2009, 25, 6270-6278.	3.5	17
60	Essence of Small Molecule-Mediated Control of Hydroxyapatite Growth: Free Energy Calculations of Amino Acid Side Chain Analogues. <i>Journal of Physical Chemistry C</i> , 2018, 122, 4372-4380.	3.1	17
61	Synergism and Mutualism in Non-Enzymatic RNA Polymerization. <i>Life</i> , 2014, 4, 598-620.	2.4	15
62	Nonenzymatic RNA Oligomerization at the Mineral-Water Interface: An Insight into the Adsorption-Polymerization Relationship. <i>Journal of Physical Chemistry C</i> , 2018, 122, 29386-29397.	3.1	15
63	29Si NMR Shifts and Relative Stabilities Calculated for Hypercoordinated Silicon-Polyalcohol Complexes: A Role in Sol-Gel and Biogenic Silica Synthesis. <i>Inorganic Chemistry</i> , 2002, 41, 748-756.	4.0	14
64	Neutron reflectivity study of substrate surface chemistry effects on supported phospholipid bilayer formation on		

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73	Oligo(oligo -glutamic acids) in Calcium Phosphate Precipitation: Mechanism of Delayed Phase Transformation. <i>Journal of Physical Chemistry B</i> , 2020, 124, 6288-6298.	2.6	7
74	Accuracy of Thermodynamic Databases for Hydroxyapatite Dissolution Constant. <i>Astrobiology</i> , 2020, 20, 157-160.	3.0	5
75	Unraveling Chiral Selection in the Self-assembly of Chiral Fullerene Macroions: Effects of Small Chiral Components Including Counterions, Co-ions, or Neutral Molecules. <i>Langmuir</i> , 2020, 36, 4702-4710.	3.5	5
76	Amino Acid Specific Nonenzymatic Montmorillonite-Promoted RNA Polymerization. <i>ChemSystemsChem</i> , 2021, 3, e2000060.	2.6	5
77	Side Group of Hydrophobic Amino Acids Controls Chiral Discrimination among Chiral Counterions and Metal-Organic Cages. <i>Nano Letters</i> , 2022, 22, 4421-4428.	9.1	5
78	Oligo(oligo -glutamic acids) in Calcium Phosphate Precipitation: Chain Length Effect. <i>Journal of Physical Chemistry B</i> , 2020, 124, 6278-6287.	2.6	4
79	Protocell Emergence and Evolution. , 2018, , 491-517.		4
80	Freshwater and Evaporite Brine Compositions on Hadean Earth: Priming the Origins of Life. <i>Astrobiology</i> , 2022, 22, 641-671.	3.0	3
81	A Model Protometabolic Pathway Across Protocell Membranes Assisted by Photocatalytic Minerals. <i>Journal of Physical Chemistry B</i> , 2019, , .	2.6	2