Rene Buchet

List of Publications by Year
in descending order

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118 papers	3,541 citations	172207 29 h-index	161609 54 g-index
123 all docs	123 docs citations	123 times ranked	4412 citing authors

#	Article	IF	Citations
1	Threeâ€dimensional cellâ€laden collagen scaffolds: From biochemistry to bone bioengineering. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2022, 110, 967-983.	1.6	6
2	The functional role of soluble proteins acquired by extracellular vesicles. , 2022, 1, .		5
3	Synthesis of Phospholipids Under Plausible Prebiotic Conditions and Analogies with Phospholipid Biochemistry for Origin of Life Studies. Astrobiology, 2022, 22, 598-627.	1.5	14
4	Fluorescence evidence of annexin A6 translocation across membrane in model matrix vesicles during apatite formation. , 2022, 1, .		2
5	Hydrolysis of Extracellular ATP by Vascular Smooth Muscle Cells Transdifferentiated into Chondrocytes Generates Pi but Not PPi. International Journal of Molecular Sciences, 2021, 22, 2948.	1.8	8
6	Annexins A2, A6 and Fetuin-A Affect the Process of Mineralization in Vesicles Derived from Human Osteoblastic hFOB 1.19 and Osteosarcoma Saos-2 Cells. International Journal of Molecular Sciences, 2021, 22, 3993.	1.8	12
7	Prostate cancer-derived exosomes promote osteoblast differentiation and activity through phospholipase D2. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2020, 1866, 165919.	1.8	33
8	Phosphatidylserine controls calcium phosphate nucleation and growth on lipid monolayers: A physicochemical understanding of matrix vesicle-driven biomineralization. Journal of Structural Biology, 2020, 212, 107607.	1.3	20
9	Racemic Phospholipids for Origin of Life Studies. Symmetry, 2020, 12, 1108.	1.1	14
10	Symmetry Breaking of Phospholipids. Symmetry, 2020, 12, 1488.	1.1	9
11	Localization of Annexin A6 in Matrix Vesicles During Physiological Mineralization. International Journal of Molecular Sciences, 2020, 21, 1367.	1.8	20
12	Tissue-nonspecific alkaline phosphatase is an anti-inflammatory nucleotidase. Bone, 2020, 133, 115262.	1.4	30
13	Src and ROCK Kinases Differentially Regulate Mineralization of Human Osteosarcoma Saos-2 Cells. International Journal of Molecular Sciences, 2019, 20, 2872.	1.8	6
14	Quantitative atomic force microscopy provides new insight into matrix vesicle mineralization. Archives of Biochemistry and Biophysics, 2019, 667, 14-21.	1.4	25
15	Design, synthesis and biological evaluation of inhibitors of cathepsin K on dedifferentiated chondrocytes. Bioorganic and Medicinal Chemistry, 2019, 27, 1034-1042.	1.4	3
16	Phospholipase D: A new mediator during high phosphate-induced vascular calcification associated with chronic kidney disease. Journal of Cellular Physiology, 2019, 234, 4825-4839.	2.0	18
17	Long-chain polyphosphate in osteoblast matrix vesicles: Enrichment and inhibition of mineralization. Biochimica Et Biophysica Acta - General Subjects, 2019, 1863, 199-209.	1.1	12
18	Effects of phospholipase D during cultured osteoblast mineralization and bone formation. Journal of Cellular Biochemistry, 2019, 120, 5923-5935.	1.2	13

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19	Lipid microenvironment affects the ability of proteoliposomes harboring TNAP to induce mineralization without nucleators. Journal of Bone and Mineral Metabolism, 2019, 37, 607-613.	1.3	17
20	Matrix vesicles from chondrocytes and osteoblasts: Their biogenesis, properties, functions and biomimetic models. Biochimica Et Biophysica Acta - General Subjects, 2018, 1862, 532-546.	1.1	131
21	Collagen promotes matrix vesicle-mediated mineralization by vascular smooth muscle cells. Journal of Inorganic Biochemistry, 2018, 186, 1-9.	1.5	16
22	Analysis of Minerals Produced by hFOB 1.19 and Saos-2 Cells Using Transmission Electron Microscopy with Energy Dispersive X-ray Microanalysis. Journal of Visualized Experiments, 2018, , .	0.2	3
23	Functions of Rho family of small GTPases and Rho-associated coiled-coil kinases in bone cells during differentiation and mineralization. Biochimica Et Biophysica Acta - General Subjects, 2017, 1861, 1009-1023.	1.1	47
24	Giant vesicles from rehydrated crude mixtures containing unexpected mixtures of amphiphiles formed under plausibly prebiotic conditions. Organic and Biomolecular Chemistry, 2017, 15, 4231-4240.	1.5	21
25	Characteristics of minerals in vesicles produced by human osteoblasts hFOB 1.19 and osteosarcoma Saos-2 cells stimulated for mineralization. Journal of Inorganic Biochemistry, 2017, 171, 100-107.	1.5	22
26	TNAP stimulates vascular smooth muscle cell trans-differentiation into chondrocytes through calcium deposition and BMP-2 activation: Possible implication in atherosclerotic plaque stability. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2017, 1863, 643-653.	1.8	38
27	Crude phosphorylation mixtures containing racemic lipid amphiphiles self-assemble to give stable primitive compartments. Scientific Reports, 2017, 7, 18106.	1.6	31
28	Multiple Functions of MSCA-1/TNAP in Adult Mesenchymal Progenitor/Stromal Cells. Stem Cells International, 2016, 2016, 1-8.	1.2	17
29	Determination of phosphatase activity in osteoblasts by IR and two-dimensional correlation IR spectroscopy. Vibrational Spectroscopy, 2016, 86, 206-211.	1.2	3
30	Synthesis of benzofuran derivatives as selective inhibitors of tissue-nonspecific alkaline phosphatase: effects on cell toxicity and osteoblast-induced mineralization. Bioorganic and Medicinal Chemistry Letters, 2016, 26, 1457-1459.	1.0	11
31	Direct Determination of Phosphatase Activity from Physiological Substrates in Cells. PLoS ONE, 2015, 10, e0120087.	1.1	15
32	Azanitrile Cathepsin K Inhibitors: Effects on Cell Toxicity, Osteoblast-Induced Mineralization and Osteoclast-Mediated Bone Resorption. PLoS ONE, 2015, 10, e0132513.	1.1	12
33	Compared Binding Properties between Resveratrol and Other Polyphenols to Plasmatic Albumin: Consequences for the Health Protecting Effect of Dietary Plant Microcomponents. Molecules, 2014, 19, 17066-17077.	1.7	48
34	A hydrophobic disordered peptide spontaneously anchors a covalently bound RNA hairpin to giant lipidic vesicles. Organic and Biomolecular Chemistry, 2014, 12, 6363-6373.	1.5	13
35	Fatty acid composition in matrix vesicles and in microvilli from femurs of chicken embryos revealed selective recruitment of fatty acids. Biochemical and Biophysical Research Communications, 2014, 446, 1161-1164.	1.0	13
36	Isolation and Characteristics of Matrix Vesicles. Methods in Molecular Biology, 2013, 1053, 115-124.	0.4	23

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37	Multisystemic Functions of Alkaline Phosphatases. Methods in Molecular Biology, 2013, 1053, 27-51.	0.4	148
38	Autocrine stimulation of osteoblast activity by Wnt5a in response to TNF-Î± in human mesenchymal stem cells. Biochemical and Biophysical Research Communications, 2013, 430, 1072-1077.	1.0	69
39	Inhibitors of tissue-nonspecific alkaline phosphatase: Design, synthesis, kinetics, biomineralization and cellular tests. Bioorganic and Medicinal Chemistry, 2013, 21, 7981-7987.	1.4	32
40	Phospholipases of Mineralization Competent Cells and Matrix Vesicles: Roles in Physiological and Pathological Mineralizations. International Journal of Molecular Sciences, 2013, 14, 5036-5129.	1.8	55
41	Molecular mechanisms of mesenchymal stem cell differentiation towards osteoblasts. World Journal of Stem Cells, 2013, 5, 136.	1.3	199
42	Direct determination of phospholipase D activity by infrared spectroscopy. Analytical Biochemistry, 2012, 430, 32-38.	1.1	10
43	Acyl chain composition determines cardiolipin clustering induced by mitochondrial creatine kinase binding to monolayers. Biochimica Et Biophysica Acta - Biomembranes, 2011, 1808, 1129-1139.	1.4	12
44	Synthesis and evaluation of thiophenyl derivatives as inhibitors of alkaline phosphatase. Bioorganic and Medicinal Chemistry Letters, 2011, 21, 2297-2301.	1.0	22
45	Proteomic characterization of biogenesis and functions of matrix vesicles released from mineralizing human osteoblast-like cells. Journal of Proteomics, 2011, 74, 1123-1134.	1.2	97
46	Ankylosing Spondylitis, Late Osteoarthritis, Vascular Calcification, Chondrocalcinosis and Pseudo Gout: Toward a Possible Drug Therapy. Current Medicinal Chemistry, 2011, 18, 2196-2203.	1.2	21
47	Sinomenine, theophylline, cysteine, and levamisole: Comparisons of their kinetic effects on mineral formation induced by matrix vesicles. Journal of Inorganic Biochemistry, 2010, 104, 446-454.	1.5	5
48	Structure-Function Relations in Oxaloacetate Decarboxylase Complex. Fluorescence and Infrared Approaches to Monitor Oxomalonate and Na+ Binding Effect. PLoS ONE, 2010, 5, e10935.	1.1	16
49	Active creatine kinase is present in matrix vesicles isolated from femurs of chicken embryo: Implications for bone mineralization. Biochemical and Biophysical Research Communications, 2010, 391, 1432-1436.	1.0	10
50	Characterization of caged compounds binding to proteins by NMR spectroscopy. Biochemical and Biophysical Research Communications, 2010, 400, 447-451.	1.0	2
51	Inorganic pyrophosphate as a regulator of hydroxyapatite or calcium pyrophosphate dihydrate mineral deposition by matrix vesicles. Osteoarthritis and Cartilage, 2009, 17, 64-72.	0.6	108
52	Matrix vesicles originate from apical membrane microvilli of mineralizing osteoblastâ€like Saosâ€2 cells. Journal of Cellular Biochemistry, 2009, 106, 127-138.	1.2	88
53	Clarification of the binding model of lead(II) with a highly sensitive and selective fluoroionophore sensor by spectroscopic and structural study. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2009, 72, 306-311.	2.0	10
54	Synthesis and evaluation of benzo[b]thiophene derivatives as inhibitors of alkaline phosphatases. Bioorganic and Medicinal Chemistry, 2009, 17, 7290-7300.	1.4	33

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55	Conformational and Interfacial Analyses of K3A18K3 and Alamethicin in Model Membranes. Journal of Physical Chemistry B, 2009, 113, 7012-7019.	1.2	19
56	Mitochondrial Creatine Kinase Binding to Phospholipid Monolayers Induces Cardiolipin Segregation. Biophysical Journal, 2009, 96, 2428-2438.	0.2	29
57	Lansoprazole is an uncompetitive inhibitor of tissue-nonspecific alkaline phosphatase.. Acta Biochimica Polonica, 2009, 56, .	0.3	16
58	Proteome analysis of matrix vesicles isolated from femurs of chicken embryo. Proteomics, 2008, 8, 192-205.	1.3	85
59	Calciumâ€and pHâ€dependent localization of annexin A6 isoforms in Balb/3T3 fibroblasts reflecting their potential participation in vesicular transport. Journal of Cellular Biochemistry, 2008, 104, 418-434.	1.2	19
60	Dimethyl sulfoxide-induced hydroxyapatite formation: A biological model of matrix vesicle nucleation to screen inhibitors of mineralization. Analytical Biochemistry, 2008, 381, 123-128.	1.1	15
61	Origin of matrix vesicles in mineralization competent osteoblast-like saos-2 cells. Bone, 2008, 42, S31-S32.	1.4	1
62	Distinct actions of strontium on mineral formation in matrix vesicles. Biochemical and Biophysical Research Communications, 2008, 373, 378-381.	1.0	10
63	Potential Role of Annexin AnnAt1 from Arabidopsis thaliana in pH-Mediated Cellular Response to Environmental Stimuli. Plant and Cell Physiology, 2007, 48, 792-803.	1.5	72
64	Temperature dependence of ligandâ€“protein complex formation as reflected by saturation transfer difference NMR experiments. Magnetic Resonance in Chemistry, 2007, 45, 745-748.	1.1	27
65	A comparative analysis of strategies for isolation of matrix vesicles. Analytical Biochemistry, 2007, 361, 176-182.	1.1	31
66	Secondary structure analysis of HIV-1-gp41 in solution and adsorbed to aluminum hydroxide by Fourier transform infrared spectroscopy. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2007, 1774, 351-358.	1.1	17
67	Phosphorylation-dependent phospholipase D activity of matrix vesicles. FEBS Letters, 2006, 580, 5676-5680.	1.3	12
68	A novel retinoid binding property of human annexin A6. FEBS Letters, 2006, 580, 3065-3069.	1.3	2
69	Distinct structure and activity recoveries reveal differences in metal binding between mammalian and Escherichia coli alkaline phosphatases. Biochemical Journal, 2005, 392, 407-415.	1.7	8
70	Phosphodiesterase Activity of Alkaline Phosphatase in ATP-initiated Ca2+ and Phosphate Deposition in Isolated Chicken Matrix Vesicles. Journal of Biological Chemistry, 2005, 280, 37289-37296.	1.6	54
71	Interactions of caged-ATP and photoreleased ATP with alkaline phosphatase. Biochemical and Biophysical Research Communications, 2005, 328, 591-594.	1.0	6
72	Peroxidase activity of annexin 1 from Arabidopsis thaliana. Biochemical and Biophysical Research Communications, 2005, 336, 868-875.	1.0	115

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73	Refined relationship between the position of the fundamental OH stretching and the first overtones for clays. Physics and Chemistry of Minerals, 2004, 31, 585-592.	0.3	73
74	Probing nucleotide binding site of annexin A6. Vibrational Spectroscopy, 2004, 36, 233-236.	1.2	2
75	Phosphate Binding in the Active Site of Alkaline Phosphatase and the Interactions of 2-Nitrosoacetophenone with Alkaline Phosphatase-Induced Small Structural Changes. Biophysical Journal, 2004, 86, 3873-3881.	0.2	37
76	Vibrational Spectroscopic Detection of Beta- and Gamma-Turns in Synthetic and Natural Peptides and Proteins. ChemInform, 2003, 34, no.	0.1	0
77	Chick embryo anchored alkaline phosphatase and mineralization process in vitro. Influence of Ca2+ and nature of substrates. FEBS Journal, 2003, 270, 2082-2090.	0.2	20
78	A Putative Consensus Sequence for the Nucleotide-Binding Site of Annexin A6â€. Biochemistry, 2003, 42, 9137-9146.	1.2	24
79	Vibrational Spectroscopic Detection of Beta- and Gamma-Turns in Synthetic and Natural Peptides and Proteins. Chemical Reviews, 2003, 103, 1917-1954.	23.0	262
80	Mg-nucleotides induced dissociation of liposome-bound creatine kinase: reversible changes in its secondary structure and in the fluidity of the bilayer. Molecular Membrane Biology, 2003, 20, 163-169.	2.0	1
81	The roles of annexins and alkaline phosphatase in mineralization process.. Acta Biochimica Polonica, 2003, 50, 1019-1038.	0.3	168
82	GTP-Induced Membrane Binding and Ion Channel Activity of Annexin VI: Is Annexin VI a GTP Biosensor?. Biophysical Journal, 2002, 82, 2737-2745.	0.2	28
83	Selecting Two-Dimensional Cross-Correlation Functions to Enhance Interpretation of Near-Infrared Spectra of Proteins. Applied Spectroscopy, 2001, 55, 155-162.	1.2	30
84	Mitochondrial Creatine Kinase Binding to Phospholipids Decreases Fluidity of Membranes and Promotes New Lipid-Induced Î² Structures As Monitored by Red Edge Excitation Shift, Laurdan Fluorescence, and FTIR. Biochemistry, 2001, 40, 6016-6026.	1.2	40
85	Structural Changes of Mitochondrial Creatine Kinase upon Binding of ADP, ATP, or Pi, Observed by Reaction-Induced Infrared Difference Spectraâ€. Biochemistry, 2001, 40, 2988-2994.	1.2	16
86	Monitoring of secondary and tertiary structure changes in the gastric H+/K+-ATPase by infrared spectroscopy. FEBS Journal, 2001, 268, 3644-3653.	0.2	25
87	Annexins as nucleotide-binding proteins: Facts and speculations. BioEssays, 2001, 23, 170-178.	1.2	28
88	Mitochondrial creatine kinase binding to liposomes and vesicle aggregation: effect of cleavage by proteinase K. The Protein Journal, 2001, 20, 593-599.	1.1	0
89	Acidic pH-induced folding of annexin VI is a prerequisite for its insertion into lipid bilayers and formation of ion channels by the protein molecules. FASEB Journal, 2001, 15, 1083-1085.	0.2	47
90	Acidic pHâ€induced folding of annexin VI is a prerequisite for its insertion into lipid bilayers and formation of ion channels by the protein molecules. FASEB Journal, 2001, 15, 1083-1085.	0.2	7

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91	Magnesiumâ^'Adenosine Diphosphate Binding Sites in Wild-type Creatine Kinase and in Mutants:Â Role of Aromatic Residues Probed by Raman and Infrared Spectroscopiesâ€. Biochemistry, 2000, 39, 9251-9256.	1.2	6
92	Alzheimer's disease: its origin at the membrane, evidence and questions. Acta Biochimica Polonica, 2000, 47, 725-33.	0.3	4
93	Interactions of egg yolk phosphatidylcholine with cholesteryl polyethoxy neoglycolipids containing N-acetyl-d-glucosamine. Journal of Molecular Structure, 1999, 478, 295-302.	1.8	6
94	ATP-Binding Site of Annexin VI Characterized by Photochemical Release of Nucleotide and Infrared Difference Spectroscopy. Biochemical and Biophysical Research Communications, 1999, 263, 775-779.	1.0	19
95	Conformational Changes of Arginine Kinase Induced by Photochemical Release of Nucleotides from Caged Nucleotides. An Infrared Difference-Spectroscopy Investigation. FEBS Journal, 1997, 244, 343-351.	0.2	15
96	Nucleotide Binding Sites in Wild-Type Creatine Kinase and in W227Y Mutant Probed by Photochemical Release of Nucleotides and inFrared Difference Spectroscopy. FEBS Journal, 1997, 250, 773-782.	0.2	9
97	ADP-Binding and ATP-Binding Sites in Native and Proteinase-K-Digested Creative Kinase, Probed by Reaction-Induced Difference Infrared Spectroscopy. FEBS Journal, 1997, 247, 1197-1208.	0.2	13
98	Solvent-induced conformational changes of a cyclic l,d-lipopeptide mycosubtilin and of its O-methyltyrosine derivative A search for hydrogen bonds by FTIR spectroscopy. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 1997, 53, 1913-1923.	2.0	12
99	Conformations of synthetic Î² peptides in solid state and in aqueous solution: relation to toxicity in PC12 cells. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 1996, 1315, 40-46.	1.8	25
100	Changes of Creatine Kinase Secondary Structure Induced by the Release of Nucleotides from Caged Compounds. FEBS Journal, 1996, 240, 134-142.	0.2	23
101	2D-FTIR ATR Spectroscopy of Thermo-Induced Periodic Secondary Structural Changes of Poly-(l)-lysine:â€‰ A Cross-Correlation Analysis of Phase-Resolved Temperature Modulation Spectra. The Journal of Physical Chemistry, 1996, 100, 10810-10825.	2.9	101
102	Effects of pH and KCl on the Conformations of Creatine Kinase from Rabbit Muscle. Infrared, Circular Dichroic and Fluorescence Studies. FEBS Journal, 1995, 234, 570-578.	0.2	27
103	Thermal and pH stabilities of alkaline phosphatase from bovine intestinal mucosa: a FTIR study. BBA - Proteins and Proteomics, 1995, 1248, 186-192.	2.1	38
104	The effect of dicyclohexycarbodiimide and cyclopiazonic acid on the difference FTIR spectra of sarcoplasmic reticulum induced by photolysis of caged-ATP and caged-Ca2+. Biochimica Et Biophysica Acta - Biomembranes, 1992, 1104, 207-214.	1.4	24
105	Ca2+ release from caged-Ca2+ alters the FTIR spectrum of sarcoplasmic reticulum. Biochimica Et Biophysica Acta - Biomembranes, 1991, 1069, 209-217.	1.4	35
106	Polarized infrared attenuated total reflectance spectroscopy of the Ca2+-ATPase of sarcoplasmic reticulum. Biochimica Et Biophysica Acta - Biomembranes, 1991, 1068, 201-216.	1.4	22
107	Emerging views on the structure and dynamics of the Ca2+-ATPase in sarcoplasmic reticulum. FEBS Letters, 1990, 268, 365-370.	1.3	25
108	Pressure effects on sacroplasmic reticulum: a Fourier transform infrared spectroscpic study. Biochimica Et Biophysica Acta - Biomembranes, 1990, 1023, 107-118.	1.4	19

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109	Correlation of structure and function in the Ca2+-ATPase of sarcoplasmic reticulum: a Fourier transform infrared spectroscopy (FTIR) study on the effects of dimethyl sulfoxide and urea. Biochimica Et Biophysica Acta - Biomembranes, 1989, 983, 167-178.	1.4	17
110	Dielectric relaxation spectroscopy on dimyristoylphosphatidylcholine-packaged gramicidin A. Chemistry and Physics of Lipids, 1988, 47, 299-307.	1.5	4
111	Dielectric spectroscopy ofl-Î±-lysolecithin-packaged gramicidin A. Biophysical Chemistry, 1988, 32, 199-209.	1.5	2
112	Dielectric relaxation studies on analogs of the polypentapeptide of elastin. The Journal of Physical Chemistry, 1988, 92, 511-517.	2.9	22
113	Hydrogen bond association constants of some nucleoside base pairs formed by an adenosine derivative and anticancer agents. International Reviews in Physical Chemistry, 1986, 5, 153-160.	0.9	1
114	Infrared investigations of biologically important hydrogen bonds in halogen containing solvents. Pure and Applied Chemistry, 1986, 58, 1115-1119.	0.9	14
115	The effect of anesthetics on hydrogen bonds An infrared study at low anesthetic concentrations. Biophysical Chemistry, 1985, 22, 249-254.	1.5	10
116	Infrared spectroscopic studies on gramicidin ion-channels: relation to the mechanisms of anesthesia. Biochimica Et Biophysica Acta - Biomembranes, 1985, 821, 8-16.	1.4	17
117	Hydrogen Bond Equilibrium Constants of Some Unusual Nucleotide Base Pairs. Journal of Biomolecular Structure and Dynamics, 1984, 2, 221-232.	2.0	6
118	Experimental Raman and infrared investigation of phenobarbital febarabamate, difebarbamate and tetrabamate. Spectrochimica Acta Part A: Molecular Spectroscopy, 1982, 38, 239-245.	0.1	6