

# Nicolas Couvrat

## List of Publications by Year in descending order

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times ranked

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citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanism of Several Solid-Solid Transformations between Dihydrated and Anhydrous Copper(II) 8-Hydroxyquinolinates. Proposition for a Unified Model for the Dehydration of Molecular Crystals. Chemistry of Materials, 1996, 8, 2247-2258.	3.2	138
2	Crystallization of molecular systems from solution: phase diagrams, supersaturation and other basic concepts. Chemical Society Reviews, 2014, 43, 2286-2300.	18.7	114
3	Pitfalls and rewards of preferential crystallization. CrystEngComm, 2010, 12, 1983.	1.3	106
4	Preferential Crystallization. Topics in Current Chemistry, 2006, 269, 1-51.	4.0	99
5	Polymer inclusion membranes based on CTA/PBAT blend containing Aliquat 336 as extractant for removal of Cr(VI): Efficiency, stability and selectivity. Reactive and Functional Polymers, 2019, 139, 120-132.	2.0	79
6	Spotting Conglomerates by Second Harmonic Generation. Crystal Growth and Design, 2009, 9, 2713-2718.	1.4	65
7	Influence of supersaturation and structurally related additives on the crystal growth of $\pm$ -lactose monohydrate. Journal of Crystal Growth, 2002, 234, 207-219.	0.7	56
8	Impact of Molecular Flexibility on Double Polymorphism, Solid Solutions and Chiral Discrimination during Crystallization of Diprophylline Enantiomers. Molecular Pharmaceutics, 2013, 10, 3850-3861.	2.3	55
9	Oscillating Crystallization in Solution between (+)- and ( $\hat{\sim}$ )-5-Ethyl-5-methylhydantoin under the Influence of Stirring. Journal of Physical Chemistry B, 2002, 106, 646-652.	1.2	53
10	Diastereomeric resolution rationalized by phase diagrams under the actual conditions of the experimental process. Tetrahedron: Asymmetry, 2004, 15, 2455-2465.	1.8	53
11	Preferential crystallisation and comparative crystal growth study between pure enantiomer and racemic mixture of a chiral molecule: 5-ethyl-5-methylhydantoin. Chemical Engineering Science, 2001, 56, 2281-2294.	1.9	51
12	Preferential crystallization in an unusual case of conglomerate with partial solid solutions. Tetrahedron: Asymmetry, 2007, 18, 821-831.	1.8	51
13	Naproxen-Nicotinamide Cocrystals: Racemic and Conglomerate Structures Generated by CO <sub>2</sub> Antisolvent Crystallization. Crystal Growth and Design, 2015, 15, 4616-4626.	1.4	40
14	Polymorphic Phase Transition in 4-Hydroxyacetophenone: Equilibrium Temperature, Kinetic Barrier, and the Relative Stability of $Z = 1$ and $Z = 2$ Forms. Crystal Growth and Design, 2017, 17, 1918-1932.	1.4	37
15	The "structural purity" of molecular solids: An elusive concept?. Chemical Engineering and Processing: Process Intensification, 2006, 45, 857-862.	1.8	35
16	Chiral Discrimination at the Solid State of Methyl 2-(Diphenylmethylsulfinyl)acetate. Crystal Growth and Design, 2007, 7, 1599-1607.	1.4	33
17	Entrapment and stabilization of iron nanoparticles within APTES modified graphene oxide sheets for catalytic activity improvement. Journal of Alloys and Compounds, 2019, 771, 1090-1102.	2.8	30
18	Structural Aspects of Solid Solutions of Enantiomers. Current Pharmaceutical Design, 2016, 22, 4929-4941.	0.9	30

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19	Mechanisms of Reversible Phase Transitions in Molecular Crystals: Case of Ciclopirox. <i>Chemistry of Materials</i> , 2015, 27, 6360-6373.	3.2	29
20	Monotropic Transition Mechanism of <i>m</i> -Hydroxybenzoic Acid Investigated by Temperature-Resolved Second Harmonic Generation. <i>Crystal Growth and Design</i> , 2013, 13, 3697-3704.	1.4	28
21	Relevance of the Second Harmonic Generation to Characterize Crystalline Samples. <i>Chemical Engineering and Technology</i> , 2015, 38, 971-983.	0.9	27
22	Crystallization kinetics and molecular mobility of an amorphous active pharmaceutical ingredient: A case study with Biclotymol. <i>International Journal of Pharmaceutics</i> , 2015, 490, 248-257.	2.6	27
23	Impact of Gas Composition in the Mother Liquor on the Formation of Macroscopic Inclusions and Crystal Growth Rates. Case Study with Ciclopirox Crystals. <i>Crystal Growth and Design</i> , 2011, 11, 2463-2470.	1.4	26
24	Formation of new polymorphs without any nucleation step. Desolvation of the rimonabant monohydrate: directional crystallisation concomitant to smooth dehydration. <i>Faraday Discussions</i> , 2015, 179, 475-488.	1.6	26
25	Transformation of an active pharmaceutical ingredient upon high-energy milling: A process-induced disorder in Biclotymol. <i>International Journal of Pharmaceutics</i> , 2016, 499, 67-73.	2.6	24
26	Cocrystals of Praziquantel: Discovery by Network-Based Link Prediction. <i>Crystal Growth and Design</i> , 2021, 21, 3428-3437.	1.4	24
27	Spotting a Conglomerate Is Just Halfway to Achieving a Preparative Resolution by Preferential Crystallization. <i>Organic Process Research and Development</i> , 2012, 16, 286-293.	1.3	23
28	Solubility of chiral species as function of the enantiomeric excess. <i>Journal of Pharmacy and Pharmacology</i> , 2015, 67, 869-878.	1.2	23
29	Resolution of Baclofenium Hydrogenomaleate By Using Preferential Crystallization. A First Case of Complete Solid Solution at High Temperature and a Large Miscibility Gap in the Solid State. <i>Crystal Growth and Design</i> , 2019, 19, 4793-4801.	1.4	23
30	Molecular mobility of amorphous <i>N</i> -acetyl- $\pm$ -methylbenzylamine and Debye relaxation evidenced by dielectric relaxation spectroscopy and molecular dynamics simulations. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 702-717.	1.3	23
31	Incidence of crystal growth conditions on the formation of macroscopic liquid inclusions in ciclopirox crystals. <i>Journal of Crystal Growth</i> , 2012, 342, 72-79.	0.7	20
32	Crystallization of Chiral Molecules. , 2015, , 951-1002.		20
33	Retention modeling and retention time prediction in gas chromatography and flow-modulation comprehensive two-dimensional gas chromatography: The contribution of pressure on solute partition. <i>Journal of Chromatography A</i> , 2017, 1485, 101-119.	1.8	19
34	Enhanced Second Harmonic Generation from an Organic Self-Assembled Eutectic Binary Mixture: A Case Study with 3-Nitrobenzoic and 3,5-Dinitrobenzoic Acids. <i>Crystal Growth and Design</i> , 2015, 15, 946-960.	1.4	18
35	Molecular Relaxations in Supercooled Liquid and Glassy States of Amorphous Quinidine: Dielectric Spectroscopy and Density Functional Theory Approaches. <i>Journal of Physical Chemistry B</i> , 2016, 120, 7579-7592.	1.2	18
36	Solvate Formation of Bis(demethoxy)curcumin: Crystal Structure Analyses and Stability Investigations. <i>Crystal Growth and Design</i> , 2019, 19, 854-867.	1.4	18

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37	Pleconaril Polymorphs: Crystal Structures of Form I and Form III, Evidence of the Enantiotropy, and Assessment of the Structural Purity. <i>Crystal Growth and Design</i> , 2004, 4, 1237-1244.	1.4	17
38	Enabling Direct Preferential Crystallization in a Stable Racemic Compound System. <i>Molecular Pharmaceutics</i> , 2019, 16, 4670-4676.	2.3	17
39	Temperature cycle induced deracemization. <i>Mendeleev Communications</i> , 2020, 30, 395-405.	0.6	17
40	Resolution by Preferential Crystallization of Proxyphylline by Using Its Salicylic Acid Monohydrate Co-crystal. <i>Chemical Engineering and Technology</i> , 2020, 43, 1093-1098.	0.9	17
41	About Aged Heterogeneous Liquid Inclusions Inside Organic Crystals in Relation to Crystal Formation, Structure, and Morphology. <i>Crystal Growth and Design</i> , 2011, 11, 2580-2587.	1.4	16
42	New Intermediate Polymorph of 1-Fluoro-adamantane and Its Second-Order-like Transition toward the Low Temperature Phase. <i>Crystal Growth and Design</i> , 2017, 17, 3395-3401.	1.4	16
43	Discovery of New Proxyphylline-Based Chiral Cocrystals: Solid State Landscape and Dehydration Mechanism. <i>Crystal Growth and Design</i> , 2020, 20, 3842-3850.	1.4	16
44	Mechanism of Hydration and Dehydration of Ciclopirox Ethanolamine (1:1). <i>Crystal Growth and Design</i> , 2009, 9, 3918-3927.	1.4	15
45	Enhancement of the Physical and Chemical Stability of Amorphous Drug-Polymer Mixtures via Cryogenic Comilling. <i>Macromolecules</i> , 2018, 51, 9382-9392.	2.2	15
46	Access to Several Polymorphic Forms of (±)-Modafinil by Using Various Solvation-Desolvation Processes. <i>Crystal Growth and Design</i> , 2016, 16, 396-405.	1.4	14
47	Optimization of an Antisolvent Method for RDX Recrystallization: Influence on Particle Size and Internal Defects. <i>Crystal Growth and Design</i> , 2020, 20, 130-138.	1.4	14
48	Investigation of Drug-Excipient Interactions in Bicletymol Amorphous Solid Dispersions. <i>Molecular Pharmaceutics</i> , 2018, 15, 1112-1125.	2.3	13
49	Characterization of Defects Inside Single Crystals of Ciclopirox. <i>Crystal Growth and Design</i> , 2009, 9, 2719-2724.	1.4	12
50	Insights on the Physical State Reached by an Active Pharmaceutical Ingredient upon High-Energy Milling. <i>Journal of Physical Chemistry B</i> , 2017, 121, 5142-5150.	1.2	12
51	Temperature Cycling Induced Deracemization of NaClO <sub>3</sub> under the Influence of Na <sub>2</sub> S <sub>2</sub> O <sub>6</sub> . <i>Crystal Growth and Design</i> , 2020, 20, 414-421.	1.4	12
52	Growth Rate Dispersion at the Single-Crystal Level. <i>Chemical Engineering and Technology</i> , 2015, 38, 1011-1016.	0.9	11
53	Precise Urea/Water Eutectic Composition by Temperature-Resolved Second Harmonic Generation. <i>Chemical Engineering and Technology</i> , 2016, 39, 1326-1332.	0.9	11
54	Vitrification of two active pharmaceutical ingredients by fast scanning calorimetry: From structural relaxation to nucleation phenomena. <i>International Journal of Pharmaceutics</i> , 2018, 536, 426-433.	2.6	11

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55	Crystal Growth, Structure, and Polymorphic Behavior of an Ionic Liquid: Phthalate Derivative of <i>N</i> -Butyl, <i>N</i> -methylimidazolium Hexafluorophosphate. <i>Chemistry of Materials</i> , 2014, 26, 4151-4162.	3.2	10
56	Crystallization from the Amorphous State of a Pharmaceutical Compound: Impact of Chirality and Chemical Purity. <i>Crystal Growth and Design</i> , 2017, 17, 337-346.	1.4	10
57	Combining zone melting and preparative chromatography to purify Phenanthrene. <i>Journal of Thermal Analysis and Calorimetry</i> , 2013, 112, 293-300.	2.0	9
58	High-Density Octadecyl Chemically Bonded Core-Shell Silica Phases for HPLC: Comparison of Microwave-Assisted and Classical Synthetic Routes, Structural Characterization and Chromatographic Evaluation. <i>Chromatographia</i> , 2014, 77, 1577-1588.	0.7	9
59	Family of Conglomerate-Forming Systems Composed of Chlocyphos and Alkyl-amine. Assessment of Their Resolution Performances by Using Various Modes of Preferential Crystallization. <i>Crystal Growth and Design</i> , 2019, 19, 5173-5183.	1.4	9
60	Spontaneous and Controlled Macroscopic Chiral Symmetry Breaking by Means of Crystallization. <i>Symmetry</i> , 2020, 12, 1796.	1.1	9
61	Structural and Physicochemical Characterization of a Solid Solution Produced by Antisolvent Crystallization of a New Phosphoantigen. <i>Crystal Growth and Design</i> , 2009, 9, 3910-3917.	1.4	8
62	Two Concomitant Polymorphs of 1,2-Naphthoquinone-2-semicarbazone. <i>Crystal Growth and Design</i> , 2009, 9, 3438-3443.	1.4	8
63	Phenanthrene Purification: Comparison of Zone Melting and Co-Crystallization. <i>Chemical Engineering and Technology</i> , 2016, 39, 1317-1325.	0.9	8
64	Molecular Mobility of an Amorphous Chiral Pharmaceutical Compound: Impact of Chirality and Chemical Purity. <i>Journal of Physical Chemistry B</i> , 2017, 121, 7729-7740.	1.2	8
65	Impact of chirality on the Glass Forming Ability and the crystallization from the amorphous state of 5-ethyl-5-methylhydantoin, a chiral poor glass former. <i>International Journal of Pharmaceutics</i> , 2018, 540, 11-21.	2.6	8
66	A Novel Mechanism of Preferential Enrichment Phenomenon Observed for the Cocrystal of (RS)-Tj ETQqO O O rgBT /Overlock 10 Tf 50 30. <i>Journal</i> , 2019, 25, 16405-16413.	1.7	7
67	Antisolvent Addition: An Effective Method of Controlled Fluid Inclusion Formation in RDX Crystals. <i>Crystal Growth and Design</i> , 2020, 20, 7120-7128.	1.4	7
68	Evidence of Conglomerate with Partial Solid Solutions in Ethylammonium Chlocyphos. <i>Crystal Growth and Design</i> , 2020, 20, 2562-2569.	1.4	7
69	Binary phase diagrams between phenanthrene and two of its impurities: 9,10-dihydroanthracene and carbazole. <i>European Physical Journal: Special Topics</i> , 2017, 226, 869-880.	1.2	6
70	Chirality impact on physical ageing: An original case of a small organic molecule. <i>Materials Letters</i> , 2018, 228, 141-144.	1.3	6
71	Concomitant dehydration mechanisms in single crystals of $\alpha$ , $\beta$ -trehalose. <i>Carbohydrate Research</i> , 2009, 344, 2539-2546.	1.1	5
72	Optimization of experimental conditions for the monitoring of nucleation and growth of racemic Diprophylline from the supercooled melt. <i>Journal of Crystal Growth</i> , 2017, 472, 11-17.	0.7	5

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73	Does the trihydrate of atorvastatin calcium possess a melting point?. European Journal of Pharmaceutical Sciences, 2020, 148, 105334.	1.9	5
74	Solid-State Overview of R-Baclofen: Relative Stability of Forms A, B and C and Characterization of a New Heterosolvate. Journal of Pharmaceutical Sciences, 2021, 110, 3457-3463.	1.6	5
75	Order-Disorder Phase Transition between High- and Low- $Z$ Crystal Structures of the $P1$ Space Group. Crystal Growth and Design, 2022, 22, 2230-2238.	1.4	5
76	The persistence and crystallization behavior of atorvastatin calcium amorphous dispersions in polyvinylpyrrolidone. Journal of Drug Delivery Science and Technology, 2022, 72, 103375.	1.4	5
77	Stability of solid phases in the dexamethasone acetate/water system. MATEC Web of Conferences, 2013, 3, 01036.	0.1	4
78	Crystallization of Terutroban Sodium Salt Hydrate from the Deliquescent State. Chemical Engineering and Technology, 2015, 38, 999-1005.	0.9	4
79	Impact of a Partial Solid Solution and Water Molecules on the Formation of Fibrous Crystals and Fluid Inclusions. Crystals, 2021, 11, 1188.	1.0	4
80	Chapter 13. Limits of the Co-crystal Concept and Beyond. RSC Drug Discovery Series, 2011, , 300-317.	0.2	3
81	A Possible Infinite Number of Components in a Single Crystalline Phase: On the Isomorphism of Brivaracetam-Guest Molecules. Crystal Growth and Design, 2018, 18, 4807-4810.	1.4	3
82	Synthesis and Characterization of Sodium Dithionate and its Dihydrate. Chemical Engineering and Technology, 2019, 42, 1446-1451.	0.9	3
83	Influence of solid/vapour equilibria on the stability of organic solids. , 2009, , .		3
84	Binary phase diagram between phenanthrene and its main impurity: dibenzothiophene. , 2011, , .		3
85	Structural investigation on sodium-2-keto-L-gulonate-monohydrate. Journal of Molecular Structure, 2012, 1020, 121-126.	1.8	2
86	Industrial Crystallization. Chemical Engineering and Technology, 2015, 38, 967-967.	0.9	2
87	Limitations during the Resolution of ( $\pm$ )-Epinephrine by Using Tartaric Acid. Chemical Engineering and Technology, 2018, 41, 1086-1092.	0.9	2
88	Phase Diagrams for Process Design. NATO Science for Peace and Security Series A: Chemistry and Biology, 2017, , 215-233.	0.5	2
89	Impact of chirality on the amorphous state of conglomerate forming systems: a case study of $N$ -acetyl- $\pm$ -methylbenzylamine. Physical Chemistry Chemical Physics, 2021, 23, 24282-24293.	1.3	2
90	Second harmonic generation: applications in phase diagram investigations. MATEC Web of Conferences, 2013, 3, 01011.	0.1	1

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91	Partial Blockage of the Reversible Solid-Solid Transition of Strontium Succinate. Chemical Engineering and Technology, 2016, 39, 1224-1230.	0.9	1
92	Re-investigation of the binary system Phenanthrene/Anthracene. MATEC Web of Conferences, 2013, 3, 01035.	0.1	0
93	Impact of sodium chloride on the expansion of a liquid-liquid miscibility gap in an API/water system. Case study of Brivaracetam. International Journal of Pharmaceutics, 2016, 515, 702-707.	2.6	0
94	Industrial Crystallization: Increasingly Unavoidable These Days. Chemical Engineering and Technology, 2019, 42, 1427-1427.	0.9	0