Robin Noel Perutz

List of Publications by Year
in descending order

102 papers	6,972 citations	61984 43 h-index	58581 82 g-index
105 all docs	105 docs citations	105 times ranked	4682 citing authors

#	Article	IF	Citations
1	The Ïƒ-CAM Mechanism: Ïƒâ€…Complexes as the Basis of Ïƒ-Bond Metathesis at Late-Transition-Metal Centers. Angewandte Chemie - International Edition, 2007, 46, 2578-2592.	13.8	534
2	Transition Metal Alkane Complexesâ€. Chemical Reviews, 1996, 96, 3125-3146.	47.7	481
3	Câˆ'F and Câˆ'H Bond Activation of Fluorobenzenes and Fluoropyridines at Transition Metal Centers: How Fluorine Tips the Scales. Accounts of Chemical Research, 2011, 44, 333-348.	15.6	430
4	Selectivity of Câ€"H Activation and Competition between Câ€"H and Câ€"F Bond Activation at Fluorocarbons. Chemical Reviews, 2017, 117, 8710-8753.	47.7	265
5	Routes to fluorinated organic derivatives by nickel mediated Câ€"F activation of heteroaromatics. Chemical Communications, 2002, , 2749-2757.	4.1	213
6	Ir-Catalyzed Borylation of Cï£¿H Bonds in N-Containing Heterocycles: Regioselectivity in the Synthesis of Heteroaryl Boronate Esters. Angewandte Chemie - International Edition, 2006, 45, 489-491.	13.8	206
7	A Comparison of Câˆ'F and Câˆ'H Bond Activation by Zerovalent Ni and Pt:Â A Density Functional Study. Journal of the American Chemical Society, 2004, 126, 5268-5276.	13.7	184
8	Hydrogen bonding vs. halogen bonding: the solvent decides. Chemical Science, 2017, 8, 5392-5398.	7.4	176
9	Exceptional Sensitivity of Metalâˆ'Aryl Bond Energies to ortho-Fluorine Substituents: Influence of the Metal, the Coordination Sphere, and the Spectator Ligands on Mâˆ'C/Hâˆ'C Bond Energy Correlations. Journal of the American Chemical Society, 2009, 131, 7817-7827.	13.7	172
10	Hydrofluoroarylation of Alkynes with Ni Catalysts. Câ€"H Activation via Ligand-to-Ligand Hydrogen Transfer, an Alternative to Oxidative Addition. Organometallics, 2012, 31, 1300-1314.	2.3	161
11	Rapid Intermolecular Carbonâˆ'Fluorine Bond Activation of Pentafluoropyridine at Nickel(0):â€‰ Comparative Reactivity of Fluorinated Arene and Fluorinated Pyridine Derivatives. Organometallics, 1997, 16, 4920-4928.	2.3	155
12	Contrasting Reactivity of Fluoropyridines at Palladium and Platinum:â€‰ Câˆ'F Oxidative Addition at Palladium, Pâˆ'C and Câˆ'F Activation at Platinum. Organometallics, 2004, 23, 6140-6149.	2.3	147
13	Metal Fluorides Form Strong Hydrogen Bonds and Halogen Bonds: Measuring Interaction Enthalpies and Entropies in Solution. Journal of the American Chemical Society, 2008, 130, 7842-7844.	13.7	143
14	Catalytic Câ€"F activation of polyfluorinated pyridines by nickel-mediated cross-coupling reactions. Chemical Communications, 2001, , 2254-2255.	4.1	137
15	A solvent-resistant halogen bond. Chemical Science, 2014, 5, 4179-4183.	7.4	122
16	Nickel-Assisted Carbon-Fluorine Bond Activation of 2,4,6-Trifluoropyrimidine: Synthesis of New Pyrimidine and Pyrimidinone Derivatives. Angewandte Chemie - International Edition, 1999, 38, 3326-3329.	13.8	120
17	.eta.2-Coordination and carbon-fluorine activation of hexafluorobenzene by cyclopentadienylrhodium and -iridium complexes. Journal of the American Chemical Society, 1993, 115, 1429-1440.	13.7	115
18	Photochemistry of Transition Metal Hydrides. Chemical Reviews, 2016, 116, 8506-8544.	47.7	108

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19	Competing Câ^'F Activation Pathways in the Reaction of Pt(0) with Fluoropyridines: Phosphine-Assistance versus Oxidative Addition. Journal of the American Chemical Society, 2008, 130, 15499-15511.	13.7	101
20	Control of .eta.2-coordination vs. carbon-hydrogen bond activation by rhodium: the role of aromatic resonance energies. Journal of the American Chemical Society, 1993, 115, 7685-7695.	13.7	97
21	Photolysis and spectroscopy with polarized light: key to the photochemistry of pentacarbonylchromium and related species. Inorganic Chemistry, 1978, 17, 147-154.	4.0	94
22	Sequential Câ€"F activation and borylation of fluoropyridines via intermediate Rh(i) fluoropyridyl complexes: a multinuclear NMR investigation. Chemical Communications, 2007, , 3664.	4.1	93
23	Inertness of the Arylâ^'F Bond toward Oxidative Addition to Osmium and Rhodium Complexes:â€‰ Thermodynamic or Kinetic Origin?. Journal of the American Chemical Society, 1998, 120, 12634-12640.	13.7	90
24	Bond energy Mâ€"C/Hâ€"C correlations: dual theoretical and experimental approach to the sensitivity of Mâ€"C bond strength to substituentsElectronic supplementary information (ESI) available: methods of calculation; Fig. S1: Comparison of calculated and experimental Câ€"H bond dissociation energies for organic molecules; Table S1, comparison of calculated and experimental CO-stretching frequencies; Table S2, total energies, BDE for Reâ€"C and Hâ€"C; Table S3, NPA charges q(C) and q(aryl) for the organic fragments C6H6â€". Chemical Communications, 2003 , , 490-491.	4.1	89
25	Selective Activation of the ortho Câ^'F Bond in Pentafluoropyridine by Zerovalent Nickel: Reaction via a Metallophosphorane Intermediate Stabilized by Neighboring Group Assistance from the Pyridyl Nitrogen. Organometallics, 2010, 29, 1824-1831.	2.3	87
26	Manganese Alkane Complexes: An IR and NMR Spectroscopic Investigation. Journal of the American Chemical Society, 2011, 133, 2303-2310.	13.7	84
27	Hydrogen Bonding in Transition Metal Complexes:Â Synthesis, Dynamics, and Reactivity of Platinum Hydride Bifluoride Complexes. Journal of the American Chemical Society, 2000, 122, 8685-8693.	13.7	83
28	Comparison of rheniumâ€"porphyrin dyads for CO₂ photoreduction: photocatalytic studies and charge separation dynamics studied by time-resolved IR spectroscopy. Chemical Science, 2015, 6, 6847-6864.	7.4	81
29	Facile Insertion of CO2into the Ruâ^'H Bonds of Ru(dmpe)2H2(dmpe = Me2PCH2CH2PMe2):Â Identification of Three Ruthenium Formate Complexes. Organometallics, 1996, 15, 5166-5169.	2.3	75
30	Exchange Processes in Complexes with Two Ruthenium (Î·2-Silane) Linkages:Â Role of the Secondary Interactions between Silicon and Hydrogen Atoms. Organometallics, 2002, 21, 5347-5357.	2.3	75
31	Validation of the Mâ^'C/Hâ^'C Bond Enthalpy Relationship through Application of Density Functional Theory. Journal of the American Chemical Society, 2006, 128, 8350-8357.	13.7	73
32	Platinum Bis(tricyclohexylphosphine) Silyl Hydride Complexes. Organometallics, 2004, 23, 5744-5756.	2.3	68
33	Facile intermolecular aromatic Câ€"F bond activation reaction of [Ru(dmpe)2H2](dmpe =) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5	4.1	66
34	Energetics of Halogen Bonding of Group 10 Metal Fluoride Complexes. Journal of the American Chemical Society, 2011, 133, 14338-14348.	13.7	64
35	Câ€"F Bond activation at Ni(0) and simple reactions of square planar Ni(ii) fluoride complexes. Dalton Transactions, 2005, , 3686.	3.3	62
36	Chemistry of nickel tetrafluoropyridyl derivatives: their versatile behaviour with BrÃ¸nsted acids and the Lewis acid BF3â€Šâ€. Dalton Transactions RSC, 2000, , 2013-2018.	2.3	60

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37	Proton-controlled photoisomerization: rhenium(i) tricarbonyl bipyridine linked to amine or azacrown ether groups by a styryl pyridine bridging ligand. Chemical Communications, 2000, , 1865-1866.	4.1	59
38	Matrix isolation and transient photochemistry of ruthenium complex Ru(dmpe)2H2: characterization and reactivity of Ru(dmpe)2 (dmpe = Me2PCH2CH2PMe2). Journal of the American Chemical Society, 1992, 114, 7425-7435.	13.7	58
39	Synthesis, molecular structure and NMR spectroscopy of a transition-metal bifluoride complex: formation via Câ€“F activation or reaction with Et3NÂ·3HF. Chemical Communications, 1997, , 187-188.	4.1	58
40	Importance of palladiumâ€“carbon bond energies in direct arylation of polyfluorinated benzenes. Dalton Transactions, 2010, 39, 10510.	3.3	54
41	cisâ€“trans Isomerisation of CpRe(CO)2(H)(ArF) (ArF= C6FnH5â^'n; n = 0â€“5) is the rate determining step in Câ€“H activation of fluoroarenes: a DFT study. Dalton Transactions, 2003, , 4065-4074.	3.3	53
42	Laser Flash Photolysis and Matrix Isolation Studies of Ru[R2PCH2CH2PR2]2H2 (R = C2H5, C6H5, C2F5): Control of Oxidative Addition Rates by Phosphine Substituents. Journal of the American Chemical Society, 1995, 117, 10047-10054.	13.7	49
43	Structure and dynamics of the Î·2-hexafluorobenzene complexes [Re(Î·5-C5H4R)(CO) 2(Î·2-C6F6)] (Râ€...=â€...H or) Tj ETQq1 1 0.784 1269-1280.	1.1	47
44	Photoinduced N2 loss as a route to long-lived organometallic alkane complexes: A time-resolved IR and NMR study. Chemical Science, 2010, 1, 622.	7.4	44
45	The reaction of the unsaturated rhenium fragment {Re(Î·5-C5Me5)(CO)2} with 1,4-difluorobenzene. Thermal intramolecular conversion of a rhenium (difluorophenyl)(hydride) to Re(Î·2-C6H4F2) and a [1,4]-metallotropic shift. Dalton Transactions RSC, 2001, , 1452-1461.	2.3	42
46	Direct Measurement of the Stability of the Supramolecular Synthon C6H6Â·C6F6. Journal of Physical Chemistry B, 2003, 107, 13855-13861.	2.6	42
47	Synthesis and reactions of the rhenium fulvene complexes [Re(Î·6-C5Me4CH2)(CO)2(C6F4R)] (Râ€...=â€...F or CF3): products derived from initial Câ€“F activation. Journal of the Chemical Society Dalton Transactions, 1998, , 3079-3086.	1.1	41
48	A Catalytic Foothold for Fluorocarbon Reactions. Science, 2008, 321, 1168-1169.	12.6	39
49	Photochemical Pump and NMR Probe: Chemically Created NMR Coherence on a Microsecond Time Scale. Journal of the American Chemical Society, 2014, 136, 10124-10131.	13.7	39
50	Computational Studies Explain the Importance of Two Different Substituents on the Chelating Bis(amido) Ligand for Transfer Hydrogenation by Bifunctional Cp*Rh(III) Catalysts. Organometallics, 2014, 33, 3433-3442.	2.3	39
51	Activation of Bâ€“H, Siâ€“H, and Câ€“F Bonds with Tpâ€²Rh(PMe₃) Complexes: Kinetics, Mechanism, and Selectivity. Journal of the American Chemical Society, 2015, 137, 1258-1272.	13.7	39
52	Photochemical reactions of [Re(Î·5-C5R5)(CO)3] (Râ€...=â€...H or Me) with partially fluorinated benzenes: Câ€“H and Câ€“F activation. Journal of the Chemical Society Dalton Transactions, 1999, , 2039-2048.	1.1	38
53	Synthesis, characterisation and reactivity of ruthenium bis-bifluoride, ruthenium hydride bifluoride and ruthenium hydride fluoride complexes. Dalton Transactions RSC, 2001, , 1676-1685.	2.3	38
54	Ultrafast Time-Resolved UVâ^'Visible and Infrared Absorption Spectroscopy of Binuclear Rhenium(I) Polypyridyl Complexes in Solution. Journal of Physical Chemistry A, 1998, 102, 1252-1260.	2.5	37

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55	Thermal and photochemical reactions of rhodium(trialkylsilyl)hydride complexes: NMR and bonding of poly(silyl)(hydride) complexes. Journal of the Chemical Society Chemical Communications, 1991, , 28.	2.0	36
56	Metathesis by Partner Interchange in Ïƒâ€Bond Ligands: Expanding Applications of the Ïƒâ€CAM Mechanism. Angewandte Chemie - International Edition, 2022, 61, .	13.8	36
57	Ultrafast reductive elimination of hydrogen from a metal carbonyl dihydride complex; a study by time-resolved IR and visible spectroscopy. Journal of the Chemical Society Dalton Transactions, 1997, , 2857-2860.	1.1	35
58	Metal Hydrides Form Halogen Bonds: Measurement of Energetics of Binding. Journal of the American Chemical Society, 2014, 136, 1288-1291.	13.7	35
59	Light-Controlled Ion Switching:â€‰ Direct Observation of the Complete Nanosecond Release and Microsecond Recapture Cycle of an Azacrown-Substituted [(bpy)Re(CO)3L]+ Complex. Journal of Physical Chemistry A, 2004, 108, 9037-9047.	2.5	29
60	The Contrasting Character of Early and Late Transition Metal Fluorides as Hydrogen Bond Acceptors. Journal of the American Chemical Society, 2015, 137, 11820-11831.	13.7	29
61	Detection of Ïƒ-alkane complexes of manganese by NMR and IR spectroscopy in solution: (Î·⁵-C₅H₅)Mn(CO)₂(ethane) and (Î·⁵-C₅H₅)Mn(CO)₂(isopentane). Chemical Science, 2015, 6, 418-424.	7.4	28
62	A systematic approach to the generation of long-lived metal alkane complexes: combined IR and NMR study of (Tp)Re(CO)2(cyclopentane). Chemical Communications, 2009, , 1401.	4.1	27
63	Self-complementary nickel halides enable multifaceted comparisons of intermolecular halogen bonds: fluoride ligands vs. other halides. Chemical Science, 2018, 9, 3767-3781.	7.4	27
64	NMR characterisation of unstable solvent and dihydride complexes generated at low temperature by in-situ UV irradiation. Chemical Communications, 2002, , 2836-2837.	4.1	26
65	Photochemical intermolecular Câ€“H and Câ€“F insertion of rhodium into pentafluoroanisole to generate a metallacycle; conversion to a cyclic carbene complex. Chemical Communications, 1996, , 961-962.	4.1	25
66	A Ruthenium Dihydrogen Germylene Complex and the Catalytic Synthesis of Digermoxane. Organometallics, 2015, 34, 4158-4163.	2.3	25
67	Structure and Dynamic Exchange in Rhodium Î·2-Naphthalene and Rhodium Î·2-Phenanthrene Complexes:Â Quantitative NOESY and EXSY Studies. Organometallics, 2000, 19, 672-683.	2.3	24
68	Liquid injection field desorption/ionization of transition metal fluoride complexes. Journal of Fluorine Chemistry, 2010, 131, 1213-1217.	1.7	23
69	Selective Photochemistry at Stereogenic Metal and Ligand Centers of cis-[Ru(diphosphine)₂(H)₂]: Preparative, NMR, Solid State, and Laser Flash Studies. Journal of the American Chemical Society, 2012, 134, 3480-3497.	13.7	23
70	Inter- and Intramolecular Photochemical C?H Activation in Matrices and in Solution with (?6-Arene)(carbonyl)osmium Complexes. Angewandte Chemie International Edition in English, 1989, 28, 1690-1692.	4.4	22
71	Highly fluorinated naphthalenes and bifurcated Câ€“Hâ‹¯Fâ€“C hydrogen bonding. CrystEngComm, 2014, 16, 9711-9720.	2.6	21
72	Photochemical Isomerization of N-Heterocyclic Carbene Ruthenium Hydride Complexes:Â In situ Photolysis, Parahydrogen, and Computational Studies. Journal of the American Chemical Society, 2006, 128, 7452-7453.	13.7	20

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73	Stereochemical Nonrigidity of a Chiral Rhodium Boryl Hydride Complex:Â Ï‚f-Borane Complex as Transition State for Isomerization. Journal of the American Chemical Society, 2008, 130, 4375-4385.	13.7	20
74	Two photochemical pathways in competition: matrix isolation, time-resolved and NMR studies of cis-[Ru(PMe3)4(H)2]. Chemical Communications, 2000, , 1175-1176.	4.1	18
75	Selective signalling of molybdate by a siderophore derivativeâ€. Dalton Transactions RSC, 2001, , 2327-2329.	2.3	18
76	Synthesis and photochemistry of free base and zinc tetraaryl porphyrins mono-substituted with tungsten pentacarbonyl via a pyridine linker. Dalton Transactions RSC, 2002, , 170.	2.3	17
77	Replacement of [RuH2(PMe3)4] by [RuH2(PEt3)4] switches reaction products: synthesis of fluoride-bridged diruthenium complexes. Dalton Transactions, 2003, , 2184.	3.3	17
78	The Role of Fluorine Substituents in the Regioselectivity of Intramolecular Câ€“H Bond Functionalization of Benzylamines at Palladium(II). Organometallics, 2015, 34, 4376-4386.	2.3	17
79	Photochemistry of transition metal carbonyls. Chemical Society Reviews, 2022, 51, 5300-5329.	38.1	17
80	Interâ€•und intramolekulare photochemische Câ€Hâ€Aktivierung mit Aren(carbonyl)osmiumâ€Komplexen in Matrix und in LÃ¶sung. Angewandte Chemie, 1989, 101, 1721-1723.	2.0	16
81	Photochemical reactions of (Î·5-cyclopentadienyl)bis(t-butylacrylate) rhodium with silanes: Dynamics of isomer interconversion via Rh(Î·2-silane) species. Dalton Transactions, 2004, , 3331-3337.	3.3	16
82	Electronic Fineâ€Tuning of Oxygen Atom Transfer Reactivity of cisâ€Dioxomolybdenum(VI) Complexes with Thiosemicarbazone Ligands. European Journal of Inorganic Chemistry, 2015, 2015, 3562-3571.	2.0	16
83	Photochemical pump and NMR probe to monitor the formation and kinetics of hyperpolarized metal dihydrides. Chemical Science, 2016, 7, 7087-7093.	7.4	16
84	Picosecond Photolysis of a Metal Dihydride: Rapid Reductive Elimination of Dihydrogen from Ru(dmpe)2H2 (dmpe = (CH3)2PCH2CH2P(CH3)2). The Journal of Physical Chemistry, 1994, 98, 3562-3563.	2.9	15
85	Photochemical Reactions of Fluorinated Pyridines at Half-Sandwich Rhodium Complexes: Competing Pathways of Reaction. Organometallics, 2014, 33, 45-52.	2.3	15
86	Transient Photochemistry, Matrix Isolation, and Molecular Structure ofcis-Ru(dmpm)2H2(dmpm =) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	2.3	14
87	Benchmarking of Halogen Bond Strength in Solution with Nickel Fluorides: Bromine versus Iodine and Perfluoroaryl versus Perfluoroalkyl Donors. Chemistry - A European Journal, 2019, 25, 9237-9241.	3.3	13
88	Photochemistry of Os(dmpe)2H2:â€‰ Matrix, Transient Solution, and NMR Studies of 16-Electron Os(dmpe)2 (dmpe = Me2PCH2CH2PMe2). Organometallics, 1998, 17, 5557-5564.	2.3	12
89	Preparation of cationic cobalt phenoxide and ethoxide complexes and their reversible reaction with carbon dioxide. Dalton Transactions RSC, 2002, , 2797-2799.	2.3	12
90	Direct Evidence for Competitive Câ€“H Activation by a Well-Defined Silver XPhos Complex in Palladium-Catalyzed Câ€“H Functionalization. Organometallics, 2022, 41, 3175-3184.	2.3	11

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91	Coherent evolution of para hydrogen induced polarisation using laser pump, NMR probe spectroscopy: Theoretical framework and experimental observation. Journal of Magnetic Resonance, 2017, 278, 25-38.	2.1	10
92	Design and synthesis of water soluble (metallo)porphyrins with pendant arms: studies of binding to xanthine oxidase. New Journal of Chemistry, 2010, 34, 1125.	2.8	9
93	Light-Induced Activation of a Molybdenum Oxotransferase Model within a Ru(II)â€“Mo(VI) Dyad. Inorganic Chemistry, 2016, 55, 12583-12594.	4.0	9
94	Competing Pathways in the Photochemistry of Ru(H)₂(CO)(PPh₃)₃. Organometallics, 2018, 37, 855-868.	2.3	8
95	Photochemical Oxidative Addition of Germane and Diphenylgermane to Ruthenium Dihydride Complexes. Organometallics, 2019, 38, 626-637.	2.3	8
96	Synthesis and Characterization of a Siderophore-based Luminescent Sensor for Molybdate. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2003, 629, 2421-2426.	1.2	7
97	Oxidative addition of ether O-methyl bonds at a Pt(0) centre. Chemical Communications, 2014, 50, 3914-3917.	4.1	6
98	Metathesis by partner interchange in Ïƒâ€bond ligands: expanding applications of the Ïƒâ€CAM mechanism. Angewandte Chemie, 0, , .	2.0	6
99	Electrocatalytic Proton Reduction by a Cobalt(III) Hydride Complex with Phosphinopyridine PN Ligands. Inorganic Chemistry, 2020, 59, 18055-18067.	4.0	5
100	Platinum(0)-mediated Câ€“O bond activation of ethers via an SN2 mechanism. Dalton Transactions, 2016, 45, 18842-18850.	3.3	4
101	Organometallic chemistry and catalysisElectronic supplementary information (ESI) available: List of Posters. See http://www.rsc.org/suppdata/dt/b3/b311889d/. Dalton Transactions, 2003, , ix.	3.3	1
102	Towards measuring reactivity on micro-to-millisecond timescales with laser pump, NMR probe spectroscopy. Faraday Discussions, 2019, 220, 28-44.	3.2	1