# Yves Chabal

## List of Publications by Citations



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|---|---|---|---|
| 424 papers | 29,485 citations | 89 h-index | 158 g-index |
| 435 ext. papers | 31,497 ext. citations | 6.6 avg, IF | 6.93 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 424 | Structural evolution during the reduction of chemically derived graphene oxide. *Nature Chemistry*, **2010**, 2, 581-7 | 17.6 | 1399 |
| 423 | Ideal hydrogen termination of the Si (111) surface. *Applied Physics Letters*, **1990**, 56, 656-658 | 3.4 | 1301 |
| 422 | Hydrothermal Synthesis of Graphene-TiO2 Nanotube Composites with Enhanced Photocatalytic Activity. *ACS Catalysis*, **2012**, 2, 949-956 | 13.1 | 754 |
| 421 | The Role of Oxygen during Thermal Reduction of Graphene Oxide Studied by Infrared Absorption Spectroscopy. *Journal of Physical Chemistry C*, **2011**, 115, 19761-19781 | 3.8 | 641 |
| 420 | Unusual infrared-absorption mechanism in thermally reduced graphene oxide. *Nature Materials*, **2010**, 9, 840-5 | 27 | 629 |
| 419 | Infrared spectroscopy of Si(111) and Si(100) surfaces after HF treatment: Hydrogen termination and surface morphology. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1989**, 7, 2104-2109 | 2.9 | 613 |
| 418 | Probing the catalytic activity of porous graphene oxide and the origin of this behaviour. *Nature Communications*, **2012**, 3, 1298 | 17.4 | 465 |
| 417 | Comparison of Si(111) surfaces prepared using aqueous solutions of NH4F versus HF. *Applied Physics Letters*, **1991**, 58, 1656-1658 | 3.4 | 453 |
| 416 | Room-temperature metastability of multilayer graphene oxide films. *Nature Materials*, **2012**, 11, 544-9 | 27 | 449 |
| 415 | Infrared spectroscopy of Si(111) surfaces after HF treatment: Hydrogen termination and surface morphology. *Applied Physics Letters*, **1988**, 53, 998-1000 | 3.4 | 426 |
| 414 | Enhanced binding affinity, remarkable selectivity, and high capacity of CO2 by dual functionalization of a rht-type metal-organic framework. *Angewandte Chemie - International Edition*, **2012**, 51, 1412-5 | 16.4 | 398 |
| 413 | Attachment of 3-(Aminopropyl)triethoxysilane on silicon oxide surfaces: dependence on solution temperature. *Langmuir*, **2008**, 24, 12963-71 | 4 | 345 |
| 412 | Mechanism of HF etching of silicon surfaces: A theoretical understanding of hydrogen passivation. *Physical Review Letters*, **1990**, 65, 504-507 | 7.4 | 321 |
| 411 | Atomic-scale conversion of clean Si(111):H-1 x 1 to Si(111)-2 x 1 by electron-stimulated desorption. *Physical Review Letters*, **1990**, 65, 1917-1920 | 7.4 | 320 |
| 410 | New ordered structure for the H-saturated Si(100) surface: The (3 x 1) phase. *Physical Review Letters*, **1985**, 54, 1055-1058 | 7.4 | 309 |
| 409 | Size, shape, and composition of luminescent species in oxidized Si nanocrystals and H-passivated porous Si. *Physical Review B*, **1995**, 52, 4910-4925 | 3.3 | 308 |
| 408 | The role of intercalated water in multilayered graphene oxide. *ACS Nano*, **2010**, 4, 5861-8 | 16.7 | 303 |

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| 407 | Stability and Hydrolyzation of Metal Organic Frameworks with Paddle-Wheel SBUs upon Hydration. *Chemistry of Materials*, **2012**, 24, 3153-3167 | 9.6 | 300 |
| 406 | Surface Infrared Study of Si(100)-(2□1)H. *Physical Review Letters*, **1984**, 53, 282-285 | 7.4 | 288 |
| 405 | Chemical etching of vicinal Si(111): Dependence of the surface structure and the hydrogen termination on the pH of the etching solutions. *Journal of Chemical Physics*, **1991**, 95, 2897-2909 | 3.9 | 281 |
| 404 | HfO2 and Al2O3 gate dielectrics on GaAs grown by atomic layer deposition. *Applied Physics Letters*, **2005**, 86, 152904 | 3.4 | 280 |
| 403 | Vanadium Oxide Nanowire□Carbon Nanotube Binder-Free Flexible Electrodes for Supercapacitors. *Advanced Energy Materials*, **2011**, 1, 936-945 | 21.8 | 276 |
| 402 | On the mechanism of the hydrogen-induced exfoliation of silicon. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1997**, 15, 1065 | | 272 |
| 401 | Dimensions of luminescent oxidized and porous silicon structures. *Physical Review Letters*, **1994**, 72, 2648-2651 | 7.4 | 264 |
| 400 | Tuning the gate opening pressure of Metal-Organic Frameworks (MOFs) for the selective separation of hydrocarbons. *Journal of the American Chemical Society*, **2012**, 134, 15201-4 | 16.4 | 246 |
| 399 | Highly Efficient Luminescent Metal-Organic Framework for the Simultaneous Detection and Removal of Heavy Metals from Water. *ACS Applied Materials & Interfaces*, **2016**, 8, 30294-30303 | 9.5 | 240 |
| 398 | Synthesis, Characterization, and Photocatalytic Activity of Y-Doped CeO2 Nanorods. *ACS Catalysis*, **2014**, 4, 577-584 | 13.1 | 237 |
| 397 | Properties of high □gate dielectrics Gd2O3 and Y2O3 for Si. *Journal of Applied Physics*, **2001**, 89, 3920-3927 | 2.5 | 237 |
| 396 | Lifetime of an adsorbate-substrate vibration: H on Si(111). *Physical Review Letters*, **1990**, 64, 2156-2159 | 7.4 | 236 |
| 395 | Metal contacts on physical vapor deposited monolayer MoS2. *ACS Nano*, **2013**, 7, 11350-7 | 16.7 | 233 |
| 394 | Adsorbate-substrate resonant interactions observed for CO on Cu(100) in the far infrared. *Physical Review Letters*, **1990**, 65, 480-483 | 7.4 | 232 |
| 393 | Coupling of an adsorbate vibration to a substrate surface phonon: H on Si(111). *Physical Review Letters*, **1990**, 65, 1124-1127 | 7.4 | 227 |
| 392 | High □gate dielectrics Gd2O3 and Y2O3 for silicon. *Applied Physics Letters*, **2000**, 77, 130-132 | 3.4 | 226 |
| 391 | Infrared spectroscopic analysis of the Si/SiO2 interface structure of thermally oxidized silicon. *Journal of Applied Physics*, **2000**, 87, 1322-1330 | 2.5 | 224 |
| 390 | Creating Hierarchical Pores by Controlled Linker Thermolysis in Multivariate Metal-Organic Frameworks. *Journal of the American Chemical Society*, **2018**, 140, 2363-2372 | 16.4 | 200 |

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|---|---|---|---|
| 389 | Initial H2O-induced Oxidation of Si(100)□(2□1). *Physical Review Letters*, **1997**, 79, 2851-2854 | 7.4 | 195 |
| 388 | Evidence of dissociation of water on the Si(100)2 □1 surface. *Physical Review B*, **1984**, 29, 6974-6976 | 3.3 | 191 |
| 387 | Metallic contact formation for molecular electronics: interactions between vapor-deposited metals and self-assembled monolayers of conjugated mono- and dithiols. *Langmuir*, **2004**, 20, 1539-42 | 4 | 185 |
| 386 | Recovery of nonwetting characteristics by surface modification of gallium-based liquid metal droplets using hydrochloric acid vapor. *ACS Applied Materials & Interfaces*, **2013**, 5, 179-85 | 9.5 | 169 |
| 385 | Topologically guided tuning of Zr-MOF pore structures for highly selective separation of C6 alkane isomers. *Nature Communications*, **2018**, 9, 1745 | 17.4 | 166 |
| 384 | Enhancing gas adsorption and separation capacity through ligand functionalization of microporous metal-organic framework structures. *Chemistry - A European Journal*, **2011**, 17, 5101-9 | 4.8 | 158 |
| 383 | Genipin-induced changes in collagen gels: correlation of mechanical properties to fluorescence. *Journal of Biomedical Materials Research - Part A*, **2008**, 87, 308-20 | 5.4 | 158 |
| 382 | Microscopic CO diffusion on a Pt(111) surface by time-resolved infrared spectroscopy. *Physical Review Letters*, **1988**, 61, 2778-2781 | 7.4 | 158 |
| 381 | Electronic damping of hydrogen vibration on the W(100) surface. *Physical Review Letters*, **1985**, 55, 845-848 | 7.4 | 155 |
| 380 | Hydrogen chemisorption on Si(111)-(7□) and -(1□) surfaces. A comparative infrared study. *Physical Review B*, **1983**, 28, 4472-4479 | 3.3 | 150 |
| 379 | Electronic structure and its dependence on local order for H/Si(111)-(1 x 1) surfaces. *Physical Review Letters*, **1993**, 70, 1992-1995 | 7.4 | 145 |
| 378 | Nucleation and interface formation mechanisms in atomic layer deposition of gate oxides. *Applied Physics Letters*, **2003**, 82, 4758-4760 | 3.4 | 144 |
| 377 | Infrared linewidths and vibrational lifetimes at surfaces: H on Si(100). *Physical Review B*, **1985**, 31, 1184-1186 | 3.3 | 143 |
| 376 | Sensing the charge state of single gold nanoparticles via work function measurements. *Nano Letters*, **2015**, 15, 51-5 | 11.5 | 137 |
| 375 | Hydride formation on the Si(100):H2O surface. *Physical Review B*, **1984**, 29, 3677-3680 | 3.3 | 131 |
| 374 | Hydrogen passivation of germanium (100) surface using wet chemical preparation. *Applied Physics Letters*, **2005**, 87, 253101 | 3.4 | 128 |
| 373 | Competitive Coadsorption of CO2 with H2O, NH3, SO2, NO, NO2, N2, O2, and CH4 in M-MOF-74 (M = Mg, Co, Ni): The Role of Hydrogen Bonding. *Chemistry of Materials*, **2015**, 27, 2203-2217 | 9.6 | 126 |
| 372 | Synthesis and Characterization of Conjugated Mono- and Dithiol Oligomers and Characterization of Their Self-Assembled Monolayers. *Langmuir*, **2003**, 19, 4272-4284 | 4 | 126 |

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| 371 | Vanadium oxide nanowire Graphene binder free nanocomposite paper electrodes for supercapacitors: A facile green approach. *Journal of Power Sources*, **2013**, 230, 130-137 | 8.9 | 125 |
| 370 | Field emission from atomically thin edges of reduced graphene oxide. *ACS Nano*, **2011**, 5, 4945-52 | 16.7 | 125 |
| 369 | Multilayered Al/CuO thermite formation by reactive magnetron sputtering: Nano versus micro. *Journal of Applied Physics*, **2010**, 108, 084323 | 2.5 | 125 |
| 368 | Infrared characterization of interfacial Si-O bond formation on silanized flat SiO2/Si surfaces. *Langmuir*, **2010**, 26, 4563-6 | 4 | 123 |
| 367 | Simultaneous Trapping of C H and C H from a Ternary Mixture of C H /C H /C H in a Robust Metal-Organic Framework for the Purification of C H. *Angewandte Chemie - International Edition*, **2018**, 57, 16067-16071 | 16.4 | 121 |
| 366 | Water interactions in metal organic frameworks. *CrystEngComm*, **2015**, 17, 247-260 | 3.3 | 120 |
| 365 | Water Reaction Mechanism in Metal Organic Frameworks with Coordinatively Unsaturated Metal Ions: MOF-74. *Chemistry of Materials*, **2014**, 26, 6886-6895 | 9.6 | 118 |
| 364 | Nanopatterning Si(111) surfaces as a selective surface-chemistry route. *Nature Materials*, **2010**, 9, 266-71 | 27 | 118 |
| 363 | CO diffusion on Pt(111) with time-resolved infrared-pulsed molecular beam methods: Critical tests and analysis. *Journal of Chemical Physics*, **1990**, 93, 9113-9129 | 3.9 | 118 |
| 362 | Nanochemistry at the atomic scale revealed in hydrogen-induced semiconductor surface metallization. *Nature Materials*, **2003**, 2, 253-8 | 27 | 113 |
| 361 | Alkaline deoxygenated graphene oxide for supercapacitor applications: An effective green alternative for chemically reduced graphene. *Journal of Power Sources*, **2012**, 215, 1-10 | 8.9 | 110 |
| 360 | Silicon Epoxide: Unexpected Intermediate during Silicon Oxide Formation. *Physical Review Letters*, **1998**, 81, 3908-3911 | 7.4 | 109 |
| 359 | Enhanced initial growth of atomic-layer-deposited metal oxides on hydrogen-terminated silicon. *Applied Physics Letters*, **2003**, 83, 740-742 | 3.4 | 108 |
| 358 | RPM3: a multifunctional microporous MOF with recyclable framework and high H2 binding energy. *Inorganic Chemistry*, **2009**, 48, 7165-73 | 5.1 | 107 |
| 357 | Manganese oxide nanorod Graphene/vanadium oxide nanowire Graphene binder-free paper electrodes for metal oxide hybrid supercapacitors. *Nano Energy*, **2013**, 2, 966-975 | 17.1 | 106 |
| 356 | Understanding and controlling water stability of MOF-74. *Journal of Materials Chemistry A*, **2016**, 4, 5176-5183 | 11 | 104 |
| 355 | Hydrogen Vibration on Si(111) 7 7: Evidence for a Unique Chemisorption Site. *Physical Review Letters*, **1983**, 50, 1850-1853 | 7.4 | 103 |
| 354 | Mechanism of Preferential Adsorption of SO2 into Two Microporous Paddle Wheel Frameworks M(bdc)(ted)0.5. *Chemistry of Materials*, **2013**, 25, 4653-4662 | 9.6 | 102 |

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| 353 | Interfacial charge distributions in carbon-supported palladium catalysts. *Nature Communications*, **2017**, 8, 340 | 17.4 | 101 |
| 352 | Chemical properties of oxidized silicon carbide surfaces upon etching in hydrofluoric acid. *Journal of the American Chemical Society*, **2009**, 131, 16808-13 | 16.4 | 100 |
| 351 | Exfoliated graphite nanoplatelets/V2O5 nanotube composite electrodes for supercapacitors. *Journal of Power Sources*, **2012**, 203, 227-232 | 8.9 | 99 |
| 350 | Capture of organic iodides from nuclear waste by metal-organic framework-based molecular traps. *Nature Communications*, **2017**, 8, 485 | 17.4 | 99 |
| 349 | Metal-graphene-metal sandwich contacts for enhanced interface bonding and work function control. *ACS Nano*, **2012**, 6, 5381-7 | 16.7 | 99 |
| 348 | Nature of Graphene Edges: A Review. *Japanese Journal of Applied Physics*, **2011**, 50, 070101 | 1.4 | 99 |
| 347 | The Effect of Methyl Functionalization on Microporous Metal-Organic Frameworks' Capacity and Binding Energy for Carbon Dioxide Adsorption. *Advanced Functional Materials*, **2011**, 21, 4754-4762 | 15.6 | 98 |
| 346 | Characteristics of high-k Al2O3 dielectric using ozone-based atomic layer deposition for dual-gated graphene devices. *Applied Physics Letters*, **2010**, 97, 043107 | 3.4 | 98 |
| 345 | Effective sensing of RDX via instant and selective detection of ketone vapors. *Chemical Science*, **2014**, 5, 4873-4877 | 9.4 | 96 |
| 344 | Selective, Sensitive, and Reversible Detection of Vapor-Phase High Explosives via Two-Dimensional Mapping: A New Strategy for MOF-Based Sensors. *Crystal Growth and Design*, **2013**, 13, 4204-4207 | 3.5 | 96 |
| 343 | Water cluster confinement and methane adsorption in the hydrophobic cavities of a fluorinated metal-organic framework. *Journal of the American Chemical Society*, **2013**, 135, 12615-26 | 16.4 | 94 |
| 342 | Progression of Solid Electrolyte Interphase Formation on Hydrogenated Amorphous Silicon Anodes for Lithium-Ion Batteries. *Journal of Physical Chemistry C*, **2012**, 116, 9072-9077 | 3.8 | 93 |
| 341 | Vibrational energy transfer on hydrogen-terminated vicinal Si(111) surfaces: Interadsorbate energy flow. *Journal of Chemical Physics*, **1992**, 96, 6203-6212 | 3.9 | 93 |
| 340 | Photoemission and band-structure results for NiSi2. *Physical Review B*, **1982**, 25, 7598-7602 | 3.3 | 93 |
| 339 | Nature of Graphene Edges: A Review. *Japanese Journal of Applied Physics*, **2011**, 50, 070101 | 1.4 | 92 |
| 338 | Role of interdimer interactions in NH3 dissociation on si(100)-(2x1). *Physical Review Letters*, **2001**, 86, 1046-9 | 7.4 | 91 |
| 337 | Infrared Absorption in a-Si: H: First Observation of Gaseous Molecular H2 and Si-H Overtone. *Physical Review Letters*, **1984**, 53, 210-213 | 7.4 | 90 |
| 336 | Diffusion of small molecules in metal organic framework materials. *Physical Review Letters*, **2013**, 110, 026102 | 7.4 | 89 |

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| 335 | Copper-metal deposition on self assembled monolayer for making top contacts in molecular electronic devices. *Journal of the American Chemical Society*, **2009**, 131, 18159-67 | 16.4 | 89 |
| 334 | Mechanism of carbon dioxide adsorption in a highly selective coordination network supported by direct structural evidence. *Angewandte Chemie - International Edition*, **2013**, 52, 1692-5 | 16.4 | 87 |
| 333 | Realistic metal-graphene contact structures. *ACS Nano*, **2014**, 8, 642-9 | 16.7 | 86 |
| 332 | Understanding the preferential adsorption of CO2 over N2 in a flexible metal-organic framework. *Journal of the American Chemical Society*, **2011**, 133, 12849-57 | 16.4 | 86 |
| 331 | Stability of HF-etched Si(100) surfaces in oxygen ambient. *Applied Physics Letters*, **2001**, 79, 4051-4053 | 3.4 | 86 |
| 330 | Mechanism of silicon exfoliation induced by hydrogen/helium co-implantation. *Applied Physics Letters*, **1998**, 73, 3721-3723 | 3.4 | 86 |
| 329 | Coupling of H vibration to substrate electronic states in Mo(100)-p(1 x 1)H and W(100)-p(1 x 1)H: Example of strong breakdown of adiabaticity. *Physical Review B*, **1988**, 38, 3112-3132 | 3.3 | 86 |
| 328 | Rational design of common transition metal-nitrogen-carbon catalysts for oxygen reduction reaction in fuel cells. *Nano Energy*, **2016**, 30, 443-449 | 17.1 | 84 |
| 327 | Interaction of molecular hydrogen with microporous metal organic framework materials at room temperature. *Journal of the American Chemical Society*, **2010**, 132, 1654-64 | 16.4 | 83 |
| 326 | Infrared characterization of biotinylated silicon oxide surfaces, surface stability, and specific attachment of streptavidin. *Journal of Physical Chemistry B*, **2009**, 113, 8776-83 | 3.4 | 83 |
| 325 | In situ infrared spectroscopy of hafnium oxide growth on hydrogen-terminated silicon surfaces by atomic layer deposition. *Applied Physics Letters*, **2005**, 87, 133103 | 3.4 | 83 |
| 324 | Influence of silicon oxide on the morphology of HF-etched Si(111) surfaces: Thermal versus chemical oxide. *Applied Physics Letters*, **1991**, 59, 2968-2970 | 3.4 | 83 |
| 323 | Suppression of subcutaneous oxidation during the deposition of amorphous lanthanum aluminate on silicon. *Applied Physics Letters*, **2004**, 84, 4629-4631 | 3.4 | 81 |
| 322 | Transmission infrared spectroscopy of methyl- and ethyl-terminated silicon(111) surfaces. *Journal of Physical Chemistry B*, **2006**, 110, 7349-56 | 3.4 | 78 |
| 321 | Interfacial chemistry in Al/CuO reactive nanomaterial and its role in exothermic reaction. *ACS Applied Materials & Interfaces*, **2013**, 5, 605-13 | 9.5 | 76 |
| 320 | A vibrational study of ethanol adsorption on Si(100). *Journal of Chemical Physics*, **1997**, 106, 9889-9898 | 3.9 | 75 |
| 319 | Laser-assisted deposition of iron on Si(111)-(7⁄7): The mechanism and energetics of Fe(CO)5 decomposition. *Journal of Chemical Physics*, **1987**, 87, 5028-5037 | 3.9 | 75 |
| 318 | Chemomechanical polishing of silicon: Surface termination and mechanism of removal. *Applied Physics Letters*, **1994**, 64, 3115-3117 | 3.4 | 74 |

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| 317 | Silanone (Si=O) on Si(100): intermediate for initial silicon oxidation. *Physical Review B*, **2002**, 66, | 3.3 | 73 |
| 316 | Measuring the structure of etched silicon surfaces with Raman spectroscopy. *Journal of Chemical Physics*, **1994**, 101, 8055-8072 | 3.9 | 73 |
| 315 | High-Resolution Infrared Study of Hydrogen (1×1) on Tungsten (100). *Physical Review Letters*, **1980**, 44, 944-947 | 7.4 | 73 |
| 314 | Interaction of Acid Gases SO2 and NO2 with Coordinatively Unsaturated Metal Organic Frameworks: M-MOF-74 (M = Zn, Mg, Ni, Co). *Chemistry of Materials*, **2017**, 29, 4227-4235 | 9.6 | 72 |
| 313 | Surface and interface processes during atomic layer deposition of copper on silicon oxide. *Langmuir* , **2010**, 26, 3911-7 | 4 | 71 |
| 312 | In Situ Infrared Characterization during Atomic Layer Deposition of Lanthanum Oxide. *Journal of Physical Chemistry C*, **2009**, 113, 654-660 | 3.8 | 71 |
| 311 | SiH bending modes as a probe of local chemical structure: Thermal and chemical routes to decomposition of H2O on Si(100)-(2×1). *Journal of Chemical Physics*, **2000**, 113, 2440-2446 | 3.9 | 71 |
| 310 | Silicon Surface Modification and Characterization for Emergent Photovoltaic Applications Based on Energy Transfer. *Chemical Reviews*, **2015**, 115, 12764-96 | 68.1 | 70 |
| 309 | Rapid Selective Etching of PMMA Residues from Transferred Graphene by Carbon Dioxide. *Journal of Physical Chemistry C*, **2013**, 117, 23000-23008 | 3.8 | 69 |
| 308 | Chlorination of hydrogen-terminated silicon (111) surfaces. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2005**, 23, 1100-1106 | 2.9 | 69 |
| 307 | Infrared study of the chemisorption of hydrogen and water on vicinal Si(100) 2×1 surfaces. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1985**, 3, 1448-1451 | 2.9 | 69 |
| 306 | Precursor design and reaction mechanisms for the atomic layer deposition of metal films. *Coordination Chemistry Reviews*, **2013**, 257, 3271-3281 | 23.2 | 68 |
| 305 | Materials Characterization of Alternative Gate Dielectrics. *MRS Bulletin*, **2002**, 27, 206-211 | 3.2 | 68 |
| 304 | Wet chemical surface functionalization of oxide-free silicon. *Progress in Surface Science*, **2012**, 87, 272-290 | 6.6 | 67 |
| 303 | Physics and chemistry of silicon wafer bonding investigated by infrared absorption spectroscopy. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1996**, 14, 3095 | | 67 |
| 302 | Partially oxidized graphene as a precursor to graphene. *Journal of Materials Chemistry*, **2011**, 21, 11217 | | 66 |
| 301 | Controlled Deposition of Gold Nanoparticles on Well-Defined Organic Monolayer Grafted on Silicon Surfaces. *Journal of Physical Chemistry C*, **2010**, 114, 14180-14186 | 3.8 | 66 |
| 300 | Summary Abstract: Surface state optical absorption on the clean Si(100)2×1 surface. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1983**, 1, 1241-1242 | 2.9 | 66 |

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| 299 | Oriented graphene nanoribbon yarn and sheet from aligned multi-walled carbon nanotube sheets. *Advanced Materials*, **2012**, 24, 5695-701 | 24 | 64 |
| 298 | Hafnium oxide gate dielectrics grown from an alkoxide precursor: structure and defects. *Materials Science and Engineering B: Solid-State Materials for Advanced Technology*, **2004**, 109, 6-10 | 3.1 | 64 |
| 297 | Buckling Reconstruction on Laser-Annealed Si(111) Surfaces. *Physical Review Letters*, **1981**, 46, 600-603 | 7.4 | 64 |
| 296 | Atomic scale oxidation of a complex system: O2/alpha-SiC(0001)-( 3 x 3). *Physical Review Letters*, **2001**, 86, 4342-5 | 7.4 | 62 |
| 295 | Infrared spectroscopic investigation of the reaction of hydrogen-terminated, (111)-oriented, silicon surfaces with liquid methanol. *Journal of Physical Chemistry B*, **2006**, 110, 20426-34 | 3.4 | 61 |
| 294 | Low-frequency dynamics of CO/Cu breakdown of Born□Oppenheimer approximation. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1994**, 12, 2229-2234 | 2.9 | 61 |
| 293 | Rapid desolvation-triggered domino lattice rearrangement in a metal-organic framework. *Nature Chemistry*, **2020**, 12, 90-97 | 17.6 | 60 |
| 292 | Low-Temperature Synthesis of a TiO2/Si Heterojunction. *Journal of the American Chemical Society*, **2015**, 137, 14842-5 | 16.4 | 59 |
| 291 | Activation of surface hydroxyl groups by modification of H-terminated Si(111) surfaces. *Journal of the American Chemical Society*, **2012**, 134, 8869-74 | 16.4 | 59 |
| 290 | Molecular hydrogen "pairing" interaction in a metal organic framework system with unsaturated metal centers (MOF-74). *Journal of the American Chemical Society*, **2010**, 132, 14834-48 | 16.4 | 59 |
| 289 | Environment-controlled tethering by aggregation and growth of phosphonic acid monolayers on silicon oxide. *Langmuir*, **2012**, 28, 8046-51 | 4 | 58 |
| 288 | Infrared spectroscopic analysis of an ordered Si/SiO2 interface. *Applied Physics Letters*, **2004**, 84, 493-495 | 3.4 | 58 |
| 287 | Influence of growth temperature on bulk and surface defects in hybrid lead halide perovskite films. *Nanoscale*, **2016**, 8, 1627-34 | 7.7 | 56 |
| 286 | Vibrational energy transfer among adsorbate modes: Picosecond dynamics on stepped H/Si(111). *Journal of Chemical Physics*, **1993**, 99, 6114-6125 | 3.9 | 56 |
| 285 | Enhancing the Reactivity of Al/CuO Nanolaminates by Cu Incorporation at the Interfaces. *ACS Applied Materials & Interfaces*, **2015**, 7, 11713-8 | 9.5 | 55 |
| 284 | Efficient radiative and nonradiative energy transfer from proximal CdSe/ZnS nanocrystals into silicon nanomembranes. *ACS Nano*, **2012**, 6, 5574-82 | 16.7 | 55 |
| 283 | When metal organic frameworks turn into linear magnets. *Physical Review B*, **2013**, 87, | 3.3 | 55 |
| 282 | The surface science of semiconductor processing: gate oxides in the ever-shrinking transistor. *Surface Science*, **2002**, 500, 859-878 | 1.8 | 55 |

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| 281 | Monolayer Doping via Phosphonic Acid Grafting on Silicon: Microscopic Insight from Infrared Spectroscopy and Density Functional Theory Calculations. *Advanced Functional Materials*, **2013**, 23, 3471-3477 | 15.6 | 54 |
| 280 | Nitrogen interaction with hydrogen-terminated silicon surfaces at the atomic scale. *Nature Materials*, **2009**, 8, 825-30 | 27 | 54 |
| 279 | Mechanistic studies of silicon oxidation. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1999**, 17, 1795 | | 54 |
| 278 | Substrate Selectivity of (tBu-Allyl)Co(CO)3 during Thermal Atomic Layer Deposition of Cobalt. *Chemistry of Materials*, **2012**, 24, 1025-1030 | 9.6 | 53 |
| 277 | Controlled silicon surface functionalization by alkene hydrosilylation. *Journal of the American Chemical Society*, **2005**, 127, 12798-9 | 16.4 | 53 |
| 276 | Low temperature formation of Si(111)7×7 surfaces from chemically prepared H/Si(111)-(1×1) surfaces. *Applied Physics Letters*, **1994**, 64, 3308-3310 | 3.4 | 53 |
| 275 | Atomic layer deposition of aluminum oxide on carboxylic acid-terminated self-assembled monolayers. *Langmuir*, **2009**, 25, 1911-4 | 4 | 52 |
| 274 | Detection of a Formate Surface Intermediate in the Atomic Layer Deposition of High-κ Dielectrics Using Ozone. *Chemistry of Materials*, **2008**, 20, 3248-3250 | 9.6 | 52 |
| 273 | Characterization and production metrology of thin transistor gate oxide films. *Materials Science in Semiconductor Processing*, **1999**, 2, 103-147 | 4.3 | 51 |
| 272 | Graphitization of Graphene Oxide with Ethanol during Thermal Reduction. *Journal of Physical Chemistry C*, **2012**, 116, 9969-9979 | 3.8 | 50 |
| 271 | Interaction of H, O2, and H2O with 3C-SiC surfaces. *Journal of Chemical Physics*, **2003**, 119, 6201-6209 | 3.9 | 50 |
| 270 | Controlling the Atomic Layer Deposition of Titanium Dioxide on Silicon: Dependence on Surface Termination. *Journal of Physical Chemistry C*, **2013**, 117, 20250-20259 | 3.8 | 49 |
| 269 | Gas phase chlorination of hydrogen-passivated silicon surfaces. *Applied Physics Letters*, **2004**, 85, 2583-2585 | 3.8 | 49 |
| 268 | Infrared-absorption spectroscopy of Si(100) and Si(111) surfaces after chemomechanical polishing. *Journal of Applied Physics*, **1995**, 78, 1650-1658 | 2.5 | 49 |
| 267 | Molecular hydrogen in a-Si: H. *Reviews of Modern Physics*, **1987**, 59, 835-844 | 40.5 | 49 |
| 266 | Investigation of the Chemical Purity of Silicon Surfaces Reacted with Liquid Methanol. *Journal of Physical Chemistry C*, **2008**, 112, 11907-11919 | 3.8 | 48 |
| 265 | Heterogeneous nucleation of oxygen on silicon: Hydroxyl-mediated interdimer coupling on Si(100)(2×1). *Physical Review B*, **1998**, 58, R13434-R13437 | 3.3 | 48 |
| 264 | Electron energy loss spectroscopy of H-terminated Si(111) and Si(100) prepared by chemical etching. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1992**, 10, 2160-2165 | 2.9 | 48 |

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| 263 | Trapping gases in metal-organic frameworks with a selective surface molecular barrier layer. *Nature Communications*, **2016**, 7, 13871 | 17.4 | 48 |
| 262 | Oxidation of H-covered flat and vicinal Si(111)-1□ surfaces. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2001**, 19, 1725-1729 | 2.9 | 47 |
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# List of Publications

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| 10 | Biphenyl-bridged wrinkled mesoporous silica nanoparticles for radioactive iodine capture. *MRS Advances*, **2019**, 4, 435-439 | 0.7 |
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| 1 | Evidence for High Pressure Gaseous Molecular Hydrogen in a-Si:H an Infrared Study **1985**, 909-912 | |