

Halogenation

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Halogenation is a chemical reaction that incorporates a halogen atom into a molecule. More specific descriptions exist that specify the type of halogen: fluorination, chlorination, bromination, and iodination. In a Markovnikov addition reaction, a halogen like bromine is reacted with an alkene which causes the π -bond to break forming an haloalkane. This makes the hydrocarbon more reactive and bromine as it turns out, is a good leaving group in further chemical reactions such as nucleophilic aliphatic substitution reactions and elimination reactions. Several main types of halogenation exist, including: * Free radical halogenation * Ketone halogenation * Electrophilic halogenation * Halogen addition reaction. Specific halogenation methods are the Hunsdiecker reaction and the Sandmeyer reaction. An example of halogenation can be found in the organic synthesis of the anesthetic halothane from trichloroethylene which involves a high temperature bromination in the second step : ([From the Wikipedia article Halogenation](#).)

Recent Publications on Halogenation:



- [Knockdown of the type 3 iodothyronine deiodinase \(D3\) interacting protein peroxiredoxin 3 decreases D3-mediated deiodination in intact cells.](#)
The type 3 iodothyronine deiodinase (D3) is the primary deiodinase that... 17th November, 2009
Thyroid Section, Division of Endocrinology, Diabetes, and Hypertension,- Endocrinology. 2009 Nov;150(11):5171-80. Epub 2009 Oct 9. ([DOI Direct Link](#))
- [First-principles study of non-heme Fe\(II\) halogenase SyrB2 reactivity.](#)
We present here a computational study of reactions at a model complex of... 17th November, 2009
Department of Materials Science & Engineering, Massachusetts Institute of- J Am Chem Soc. 2009 Oct 14;131(40):14426-33. ([DOI Direct Link](#))
- [Umpolung of halide reactivity: efficient \(diacetoxyiodo\)benzene-mediated electrophilic alpha-halogenation of 1,3-dicarbonyl compounds.](#)
An efficient high-yielding (diacetoxyiodo)benzene-mediated... 12th November, 2009
Centre for Synthesis and Chemical Biology, School of Chemistry and- Chem Commun (Camb). 2009 Dec 7;(45):6991-3. Epub 2009 Oct 12. ([DOI Direct Link](#))
- [Tetraalkylphosphonium Trihalides. Room Temperature Ionic Liquids As Halogenation Reagents.](#)
Six room temperature ionic liquids (RTILs) comprised of a... 10th November, 2009
Department of Chemistry, Georgetown University, Washington, D.C.- J Org Chem. 2009 Nov 6. ([DOI Direct Link](#))
- [Application of electrolysis to stimulate microbial reductive PCE dechlorination and oxidative VC biodegradation.](#)
A novel approach was applied to stimulate biodegradation of chloroethenes... 7th November, 2009
Water Technology Center, Department of Environmental Biotechnology,- Environ Sci Technol. 2009 Sep 15;43(18):7098-104.

- [Formation of iodinated organic compounds by oxidation of iodide-containing waters with manganese dioxide.](#)
*This study shows that iodinated organic compounds can be produced when...*7th November, 2009
Laboratoire de Chimie et Microbiologie de l'Eau UMR CNRS 6008,- Environ Sci Technol. 2009 Sep 15;43(18):7003-9.
- [Stringency of the 2-His-1-Asp active-site motif in prolyl 4-hydroxylase.](#)
*The non-heme iron(II) dioxygenase family of enzymes contain a common...*6th November, 2009
Department of Biochemistry, University of Wisconsin-Madison, Madison,- PLoS One. 2009 Nov 5;4(11):e7635. ([DOI Direct Link](#))
- [Morphing Activity between Structurally Similar Enzymes: From Heme-Free Bromoperoxidase to Lipase.](#)
*In this study, to explore the plasticity of the alpha/beta-hydrolase fold...*4th November, 2009
Department of Chemical Engineering, Tsinghua University, Tsinghua Garden- Biochemistry. 2009 Nov 10. ([DOI Direct Link](#))
- [Disinfection by-products from halogenation of aqueous solutions of terpenoids.](#)
*We report the formation of trihalomethanes and other disinfection...*17th October, 2009
Curtin Water Quality Research Centre, Department of Applied Chemistry,- Water Res. 2009 Sep 8. ([DOI Direct Link](#))
- [Oxidative halogenation with "green" oxidants: oxygen and hydrogen peroxide.](#)
*It is difficult to imagine organic chemistry without organo-halogen...*15th October, 2009
Laboratory of Organic and Bioorganic Chemistry, Department of Physical and- Angew Chem Int Ed Engl. 2009;48(45):8424-50. ([DOI Direct Link](#))
- [Characterization of SgcE6, the flavin reductase component supporting FAD-dependent halogenation and hydroxylation in the biosynthesis of the enediyne antitumor antibiotic C-1027.](#)
*The C-1027 enediyne antitumor antibiotic from Streptomyces globisporus...*13th October, 2009
Division of Pharmaceutical Sciences, University of Wisconsin-Madison, 777- FEMS Microbiol Lett. 2009 Nov;300(2):237-41. Epub 2009 Sep 27. ([DOI Direct Link](#))
- [Substrate positioning controls the partition between halogenation and hydroxylation in the aliphatic halogenase, SyrB2.](#)
*The alpha-ketoglutarate-dependent hydroxylases and halogenases employ...*10th October, 2009
Department of Chemistry, Pennsylvania State University, University Park,- Proc Natl Acad Sci U S A. 2009 Oct 20;106(42):17723-8. Epub 2009 Oct 6. ([DOI Direct Link](#))
- [Investigating the chlorination of acidic pharmaceuticals and by-product formation aided by an experimental design methodology.](#)
*The degradation of seven acidic drugs and two metabolites during...*6th October, 2009
Department of Analytical Chemistry, Nutrition and Food Sciences, IIAA -- Water Res. 2009 Sep 10. ([DOI Direct Link](#))
- [Chelating N-heterocyclic carbene alkoxide as a supporting ligand for Pd\(II/IV\) C-H bond functionalization catalysis.](#)
*A Pd(IV) complex that represents a viable catalytic intermediate in...*1st October, 2009
School of Chemistry, University of Edinburgh, Edinburgh, United Kingdom- J Am Chem Soc. 2009 Oct 7;131(39):13912-3. ([DOI Direct Link](#))
- [Delayed hypersensitivity to corticosteroids in a series of 315 patients: clinical data and patch test results.](#)
*BACKGROUND: Corticosteroids may cause immediate or delayed...*29th September, 2009
Department of Dermatology, Cliniques Universitaires Saint-Luc, Université- Contact Dermatitis. 2009 Sep;61(3):163-75. ([DOI Direct Link](#))



Halogenation Patents:

- 7598372- [Synthesis of core sugar chain structure of asparagine-linked glycoprotein](#)
- 7604920- [Positive resist composition, method of forming resist pattern, polymeric compound, and compound](#)
- 7605134- [4"-Deoxy-4"--\(s\)-amino avermectin derivatives](#)
- 7605144- [Enzyme catalyzed therapeutic compounds](#)
- 7605175- [Inhibitors of cyclin-dependent kinases, compositions and uses related thereto](#)
- 7605181- [Method for the treatment of metabolic disorders](#)
- 7605205- [Nanocomposite compositions and processes for making the same](#)
- 7605210- [Fiber-reinforced thermoplastic vulcanizates](#)
- 7605215- [Process for producing olefin copolymerization catalyst and process for producing olefin copolymer](#)
- 7605264- [Heterocyclic modulators of the glucocorticoid receptor, AP-1, and/or NF-.kappa.B activity and use thereof](#)
- 7605384- [Apparatus for and method of preparing a small amount of a radioactive substance combination](#)
- 7602602- [Conductive polymer and solid electrolytic capacitor using the same](#)
- 7601870- [Substituted aniline derivatives](#)
- 7601855- [Substituted chroman derivatives, medicaments and use in therapy](#)
- 7598383- [Heterocyclic inhibitors of MEK and methods of use thereof](#)
- 7598403- [Synthesis of chromanones](#)
- 7598423- [Potentiators of glutamate receptors](#)
- 7598425- [Method for producing hydrate of fluoroalkyl ketone](#)
- 7601079- [Golf ball with multiple cover layers](#)
- 7601652- [Method for treating substrates and films with photoexcitation](#)
- 7601664- [Olefin polymerization catalyst compositions and method of preparation](#)
- 7601703- [Enzyme catalyzed therapeutic agents](#)
- 7601774- [Synthesis of aromatic polyhalogenated halomethyl compounds](#)
- 7601778- [Aqueous dispersion including two different block copolymers](#)
- 7607919- [Magnetic substance display panel](#)
- 7608270- [Dosage form](#)
- 7612218- [Process for production of heteroaryl-type boron compounds with iridium catalyst](#)
- 7615575- [Compounds for the treatment of metabolic disorders](#)
- 7615593- [Bifunctional-modified hydrogels](#)
- 7615602- [Process for producing polypropylene film](#)
- 7618959- [Antibacterial agents](#)
- 7618960- [Morpholine type cinnamide compound](#)
- 7618982- [Heteroarylpyrrolopyridinones active as kinase inhibitors](#)
- 7618985- [Isoquinoline derivatives](#)
- 7618995- [Derivatives of 4,5-diarylpyrrole, preparation method thereof and use of same in therapeutics](#)
- 7619100- [Physiologically active substances](#)
- 7612146- [Polymeric compositions and uses therefor](#)
- 7612114- [Selective estrogen receptor modulator](#)
- 7612105- [3-arylphenyl sulfide derivative and insecticide and miticide](#)
- 7608597- [Methods and compositions for treating hepatitis C virus](#)

- 7608600- [Modified 2' and 3'-nucleoside prodrugs for treating Flaviviridae infections](#)
- 7608614- [Process for preparing macrocyclic compounds](#)
- 7608628- [Alkylsulphonamide quinolines](#)
- 7608631- [4-\(3,3-dihalo-allyloxy\) phenol derivatives having pesticidal properties](#)
- 7608668- [Ethylene/.alpha.-olefins block interpolymers](#)
- 7608902- [Nanowire composite and preparation method thereof](#)
- 7612058- [Methods for inhibiting sterol absorption](#)
- 7612067- [Imidazopyridazine compounds](#)
- 7612075- [Substituted oxoazaheterocyclyl compounds](#)
- 7619106- [Preparation of partially hydrogenated rac-ansa-metallocene complexes](#)

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