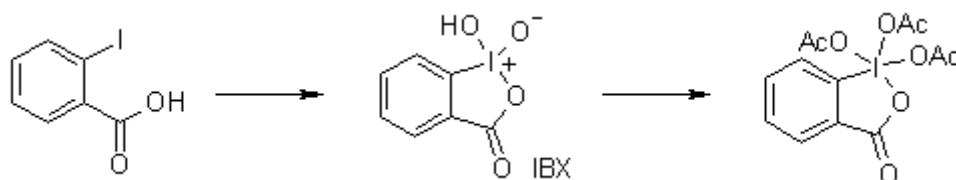


Dess-Martin periodinane, DMP  
1,1,1-Triacetoxy-1,1-dihydro-1,2-benziodoxol-3(1H) –one

CAS	87413-09-0
FW	424,16
Melting point	133-134 °C
Merck	13, 2950
Beilstein	4548207

#### Preparations of Dess-Martin Periodinane



#### Literature

Readily Accessible 12-I-5 Oxidant for the Conversion of Primary and Secondary Alcohols to Aldehydes and Ketones,  
Dess, D.B., Martin, J.C., J. Org.Chem. 48 (1983) 4155

A Useful 12-I-5 Triacetoxyperiodinane (the Dess-Martin Periodinane) for Selective Oxidation of Primary or Secondary Alcohols and a Variety of Related 12-I-5 Species,  
Daniel B. Dess and J.C. Martin, J.Am.Chem.Soc., 113 (1991) 7277

An Improved Procedure for the Preparation of the Dess-Martin Periodinane,  
Robert E. Ireland and Longbin Liu, J.Org.Chem., 58 (1993) 2899

A User-Friendly Entry to 2-Iodoxybenzoic acid (IBX),  
Marco Frigerio and Marco Santagostino and Simona Sputore, J.Org.Chem., 64 (1999) 4537

Magnesium amide base-mediated enantioselective deprotonation processes,  
Kenneth W. Henderson, William J. Kerr and Jennifer H. Moir, Tetrahedron, 58 (2002)4573

#### Applications of of Dess-Martin Periodinane

Readily Accessible 12-I-5 Oxidant for the Conversion of Primary and Secondary Alcohols to Aldehydes and Ketones,  
Dess, D.B., Martin, J.C., J. Org.Chem. 48 (1983) 4155

Enantioselective Total Synthesis of (-)-Preclavulone-A,  
E.J. Corey and Yi Bin Xiang, Tetrahedron Lett., 29 (1988) 995

Oxidation of Fluoroalkyl-Substituted Carbinols by the Dess-Martin Reagent,  
Russell J. Linderman and David M. Grave, J.Org.Chem., 54 (1989), 661

Development of a Fully Synthetic Stereoselective Route to 6-Deoxyerythronolide B by Reiterative Applications of the Lewis Acid Catalyzed Diene Aldehyde Cyclocondensation Reaction: A Remarkable Instance of Diastereofacial Selectivity,  
David C. Myles and Samuel J. Danishefsky, *J.Org.Chem.*, 55 (1990) 1636

A Useful 12-I-5 Triacetoxyperiodinane (the Dess-Martin Periodinane) for Selective Oxidation of Primary or Secondary Alcohols and a Variety of Related 12-I-5 Species,  
Daniel B. Dess and J.C. Martin, *J.Am.Chem.Soc.*, 113 (1991) 7277

A Novel Application of the Dess-Martin Reagent to the Synthesis of an FK506 Analogue and other Tricarbonyl Compounds,  
Mark J. Batchelor, Roger J. Gillespie, Julian M.C. Golec and Charles J. R. Hedgecock, *Tetrahedron Lett.*, 34 (1993) 167

Hypervalent Iodine Oxidant: Structure and Kinetics of the reactive Intermediates in the Oxidation of Alcohols and 1,2-Diols by o-Iodoxybenzoic acid (IBX) and Dess-Martin Periodinane. A Comparative H-NMR study.  
Sergio De Munari, Marco Frigerio and Marco Santagostino, *J.Org.Chem.*, 61 (1996) 9272

The Asymmetric Synthesis of Erythromycin B,  
Stephen F. Martin, Tsuneki Hida, Philip R. Kym, Michael Loft and Anne Hodgson, *J.Am.Chem.Soc.*, 119 (1997) 3193

Deoxygenation Using Dess-Martin Periodinane: Regeneration of Ketones from Ketoximes,  
Sachin S. Chaudhari and Krishnacharya G. Akamanchi, *Tetrahedron Lett.*, 39 (1998) 3209

Reaction of 1,1,1-Trifluoro[chloro]-4-ethoxybut-3-en-2-ones with 1,3-Dicarbonyl Compounds: Synthesis of 5-Acetyl[carboxyethyl]-1,1,1-trifluoro[chloro]hept-3-ene-2,6-diones and their Cyclic Derivatives Phenol, Pyridines and Acetone,  
Nilo Zanatta, Resemario Barichello, Helio G. Bonaccorso, Marcos A.P. Martins, *Synthesis*, 5 (1999) 765

New Synthetic Technology for the Rapid Construction of Novel Heterocycles- Part1:  
The Reaction of Dess-Martin Periodinane with Anilides and Related Compounds,  
K.C. Nicolaou, Young-Li Zhong, Phil S. Baran, *Angew. Chem.Int.Ed.*, 39 (2000) 622

New Synthetic Technology for the Rapid Construction of Novel Heterocycles- Part2:  
The Reaction of Dess-Martin Periodinane with Anilides and Related Compounds,  
K.C. Nicolaou, Young-Li Zhong, Phil S. Baran, *Angew. Chem.Int.Ed.*, 39 (2000) 625

Oxidation of  $\alpha,\omega$ -Diols Using the Dess-Martin Periodinane,  
Jochen Roels, Peter Metz, *Synlett*, 6 (2001) 789

A Mild, Chemoselective Protocol for the Removal of Thioketals and Thioacetals Mediated by Dess-Martin Periodinane,  
Neil F. Langille, Less A. Dakin, and James S. Panek, *Org.Lett.*, 5 (2003) 575

Shotgun Process through Differentiation of Aliphatic and Aromatic Aldehyde Functions: The First Synthesis of Ferulic Acid Hexan-3-onyl Ether,  
Yoshifumi Nagano, Akhiro Orita, Junzo Otera, *Synlett*, 5 (2003) 684

Preparation of 14,36-didehydro pristinamycins IIs,  
Baptiste Ronan, Eric Bacque, Jean-Claude Barriere and Serge Sable, *Tetrahedron*, 59 (2003) 2929

Recyclable 2<sup>nd</sup> generation ionic liquids as green solvents for the oxidation of alcohols with hypervalent iodine reagents,  
J.S. Yadav, B.V.S. Reddy, A.K. Basak and A. Venkat Narsaiah, *Tetrahedron*, 60 (2004) 2131

Synthesis of Imides, N-Acyl Vinylogous Carbamates and Ureas, and Nitriles by Oxidation of Amides and Amines with Des-Martin Periodinane,  
K.C. Nicolaou and Casey J.N. Mathison, *Angew.Chem.Int.Ed.*, 44 (2005) 5992

Syntheses of the cylindrospermopsin alkaloids,  
Ryan E. Looper, Maria T.C. Runnegar and Robert M. Williams, *Tetrahedron*, 62 (2006) 4549

Hypervalent Iodine Mediated Intramolecular Cyclization of Thioformanilides: Expedient Approach to 2-Substituted Benzothiazoles,  
D.Subhas Bose and Mohd. Idrees, *J.Org.Chem.*, 71 (2006) 8261