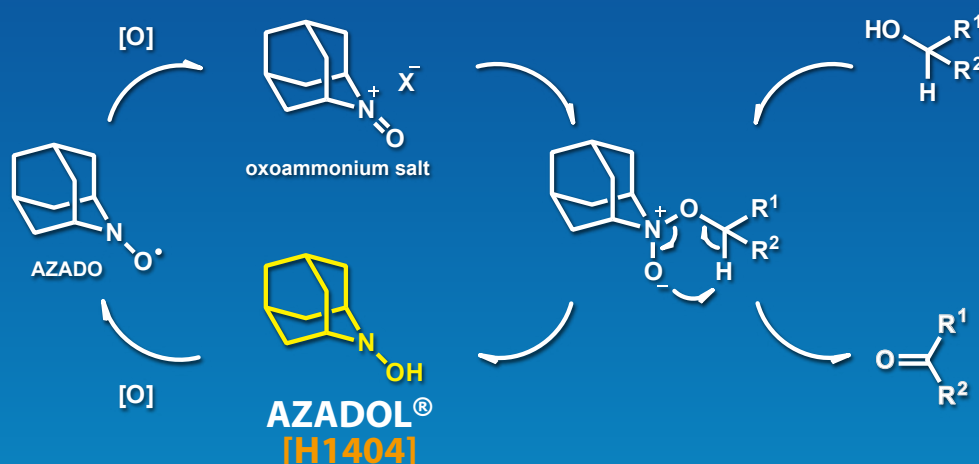


Highly Active Catalyst for Alcohol Oxidation AZADOL®

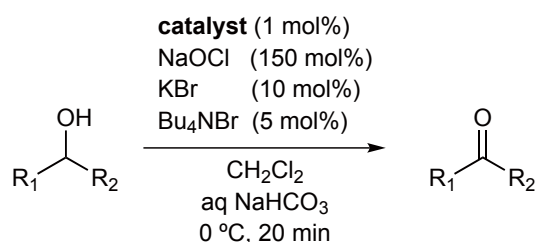


Advantages

- High Catalytic Activity (superior to the activity of TEMPO)
- Easily Oxidize Bulky Secondary Alcohols
- Various Oxidation Reactions Proceed According to Co-oxidants (Co-oxidants: NaOCl, NaClO₂, PhI(OAc)₂, O₂, DIAD)

Review: Y. Iwabuchi, *Chem. Pharm. Bull.* **2013**, *61*, 1197.

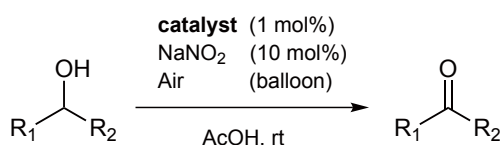
Oxidation of Alcohols under Anelli's Condition



substrate			
TEMPO	5%	16%	13%
AZADO	94%	99%	91%

M. Shibuya, Y. Sasano, M. Tomizawa, T. Hamada, M. Kozawa, N. Nagahama, Y. Iwabuchi, *Synthesis* **2011**, *21*, 3418.
 Y. Iwabuchi, M. Shibuya, M. Tomizawa, Y. Osada, PCT Int. Appl. WO 2009145323, **2009**.

Aerobic Oxidation of Alcohols



substrate			
TEMPO	10% (24 h)	0% (24 h)	1% (24 h)
AZADO	97% (9 h)	92% (9.5 h)	100% (6 h)

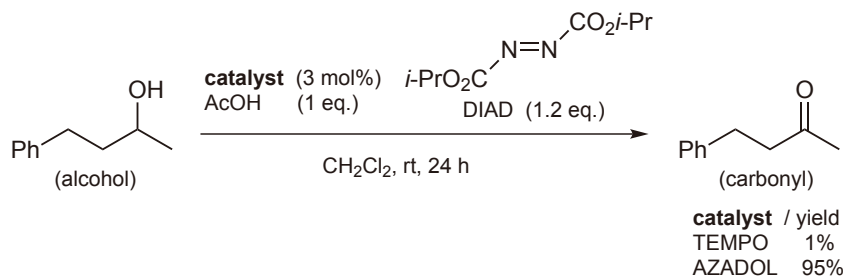
M. Hayashi, Y. Sasano, S. Nagasawa, M. Shibuya, Y. Iwabuchi, *Chem. Pharm. Bull.* **2011**, *59*, 1570.



Highly Active Catalyst for Alcohol Oxidation - AZADOL®

Oxidation of Alcohols to Carbonyl Compounds with Mitsunobu Reagent

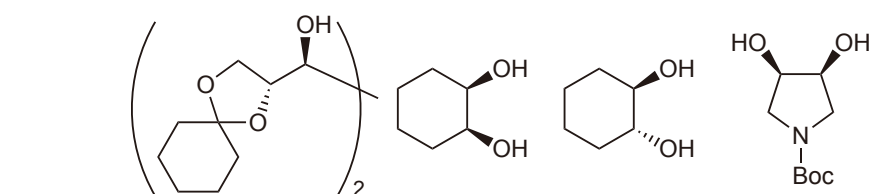
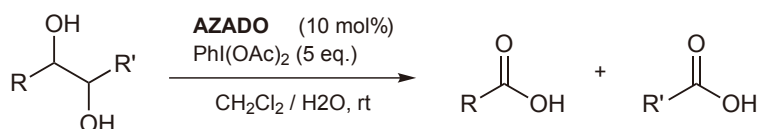
Functional-group-selective oxidation proceeds by use of Mitsunobu reagent DIAD as a co-oxidant.



M. Hayashi, M. Shibuya, Y. Iwabuchi, *J. Org. Chem.* **2012**, *77*, 3005.

One-Pot Oxidative Cleavage of 1,2-Diols to (Di)Carboxylic Acids

Oxidative cleavage of 1,2-diols to carboxylic acids proceeds by use of hypervalent iodine compound $\text{PhI}(\text{OAc})_2$ as a co-oxidant.



yield / time 90% / 1 h 87% / 1.5 h 89% / 1 h 91% / 1 h

M. Shibuya, T. Shibuta, H. Fukuda, Y. Iwabuchi, *Org. Lett.* **2012**, *14*, 5010.

H1404 2-Hydroxy-2-azaadamantane (= AZADOL®)

200mg / 1g / 5g

AZADOL® is a registered trademark of Nissan Chemical Industries, Ltd.

Related Products

T1560	TEMPO Free Radical	5g / 25g
P1747	Potassium Bromide (=KBr)	300g
T0054	Tetrabutylammonium Bromide (=Bu₄NBr)	25g / 100g / 500g
I0330	Iodobenzene Diacetate (=PhI(OAc)₂)	10g / 25g / 250g
P1415	Polystyrene Iodosoacetate (=PSDIB)	1g / 5g
A1246	Diisopropyl Azodicarboxylate (40% in Toluene, ca. 1.9mol/L) (=DIAD)	25g / 100g / 250g

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