Undesirable deprotection of O-TBDMS groups by Pd/C-catalyzed hydrogenation and chemoselective hydrogenation Using a Pd/C(en) catalyst.
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In general, O-TBDMS protective groups have been believed to be stable toward Pd/C-catalyzed hydrogenation conditions. In practice, however, frequent and unexpected loss of the TBDMS protective group of a variety of hydroxyl functions occurred under neutral and mild hydrogenation conditions using 10% Pd/C in MeOH. When a 10% Pd/C-ethylenediamine complex catalyst [10% Pd/C(en)] was used instead of 10% Pd/C, the undesirable problem was perfectly overcome and the chemoselective hydrogenation of reducible functionalities leaving intact the TBDMS protective group was achieved.

Chemoselective Control of Hydrogenation among Aromatic Carbonyl and Benzyl Alcohol Derivatives Using Pd/C(en) Catalyst.
Kazuyuki HATTORI, Hironao SAJIKI, and Kosaku HIROTA*

The hydrogenolysis of aromatic ketones and aldehydes quite smoothly give the corresponding methylene compounds via the formation of the intermediary benzyl alcohols in the presence of Pd/C as a catalyst. Therefore, it is extremely difficult to isolate the intermediary benzyl alcohol selectively. This paper describes a mild and chemoselective hydrogenation method of an aromatic carbonyl compound to benzyl alcohol using the 10% Pd/C(en) catalyst and its application to the chemoselective deacetoxylation reaction at the benzylic position in the presence of the benzyl alcohol functionality within the molecule.

Novel and Efficient Synthesis of 8-Oxoadenine Derivatives.
Kosaku HIROTA,* Kazunori KAZAOKA, Itaru NIIMOTO, and Hironao SAJIKI

A novel synthetic method of 8-oxoadenine derivatives (3 and 4) is reported. This widely applicable synthetic method is realized through the use of 5-amino-4-cyano-2-oximidazole derivatives (2) as the key intermediates. This method shows good substituent generality while using relatively nontoxic, inexpensive reagents under mild conditions. A variety of substituents were successfully introduced to the 2- and 9-position of the 8-oxoadenine nucleus.

Synthesis and Photodynamic Activity of a Cationic Zinc Monoazaporphyrin Bearing a Nitrogen Atom at the Peripheral Position.
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A new cationic monoazaporphyrin, zinc 2-aza-8,12,13,17-tetraethyl-2,3,7,18-tetramethylporphyrin iodide 3 was synthesized. Photodynamic activity of 3 in degradation of 2',3'-isopropylideneguanosine 4 was compared with 2-aza-8,12,13,17-tetraethyl-3,7,18-trimethylporphyrin 1, zinc 2-aza-8,12,13,17-tetraethyl-3,7,18-trimethylporphyrin 2, and hematoporphyrin 5. The quaternary ammonium 3 showed a remarkable increase of photodynamic activity compared with 5, although no appreciable difference in the activity was observed between 1 and 5.