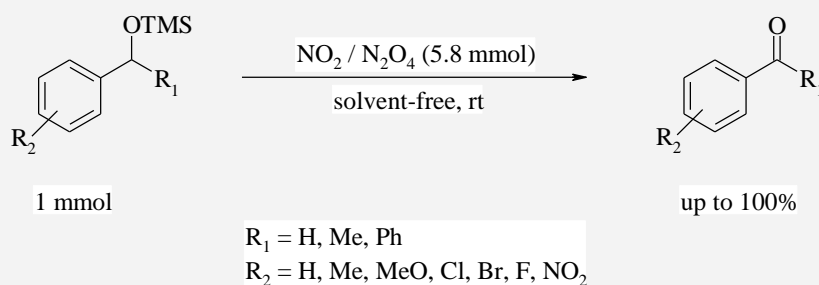


Title:**Oxidative Deprotection of Benzylic Silyl Ethers to their Corresponding Carbonyl Compounds using Nitrogen Dioxide Gas****Authors & affiliations:***M. R. Naimi-Jamal,* M. Javaheri, M. G. Dekamin**Green Organic Synthesis Research Laboratory, Department of Chemistry, Iran University of Science and Technology, Tehran 16846-13114, Iran***Abstract:**

Oxidative deprotection of benzylic silyl ethers to the corresponding Aldehydes and Ketones in high yields has been carried out using nitrogen dioxide/dinitrogen tetroxide gas. Gaseous NO₂/N₂O₄ is an efficient reagent that can be used for the oxidative deprotection of primary and secondary benzylic silyl ethers to the corresponding carbonyl compounds.

In this method, 1 mmol of benzylic silyl ether was exposed to ca. 0.6 bar NO₂/N₂O₄ gas in an evacuated 100 mL flask at room temperature (**Scheme 1**).



Scheme 1

After required time and evacuation of the reaction gas mixture, aldehydes or ketones were purely produced. The purity of the aldehydes or ketones was verified by thin layer chromatography (TLC) or gas chromatography (GC) and by melting-point determinations of the solid carbonyl compounds.

Tertiary benzylic trimethylsilyl ethers such as triphenylmethanol afforded their parent alcohols without further oxidation. The oxidation of primary and secondary benzylic silyl ethers were performed as liquid-solid, or gas-solid solvent-free reactions.

No need to organic solvents and easy workup in addition to quantitative yields are some advantages of this method.