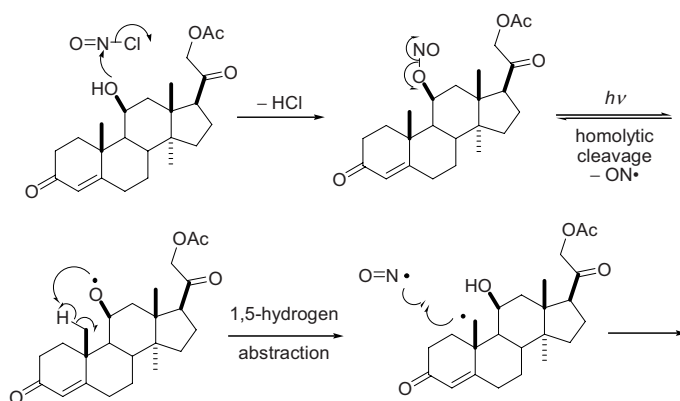
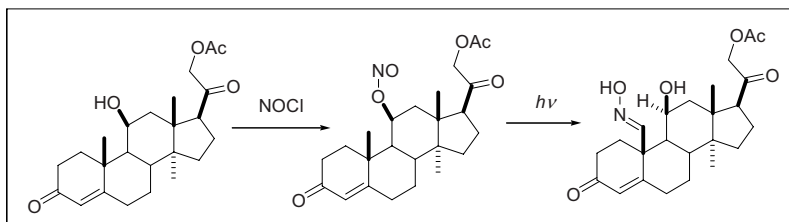
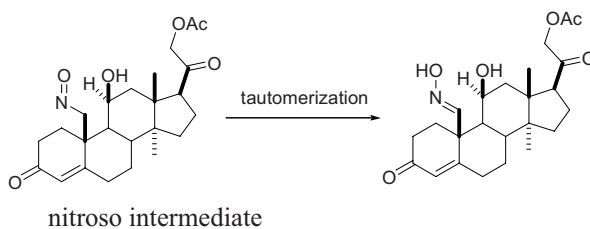


Barton nitrite photolysis

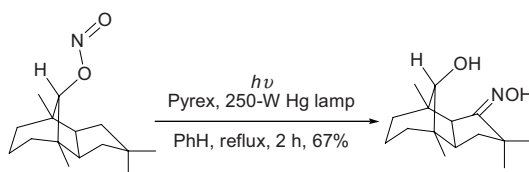
Photolysis of a nitrite ester to a γ -oximino alcohol.

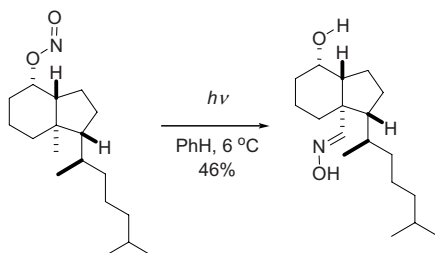
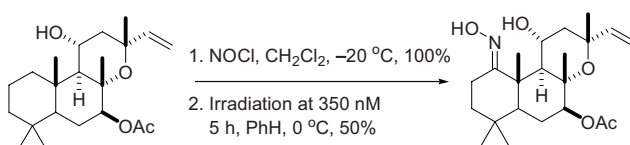


Nitric oxide radical is a stable and therefore, long-lived radical



Example 1²



Example 2⁶Example 3⁷

References

- (a) Barton, D. H. R.; Beaton, J. M.; Geller, L. E.; Pechet, M. M. *J. Am. Chem. Soc.* **1960**, *82*, 2640–2641. In 1960, Derek Barton took a “vacation” in Cambridge, Massachusetts; he worked in a small research institute called the Research Institute for Medicine and Chemistry. In order to make the adrenocortical hormone aldosterol, Barton invented the Barton nitrite photolysis by simply writing down on a piece of paper what he thought would be an ideal process. His skilled collaborator, Dr. John Beaton, was able to reduce it to practice. They were able to make 40 to 50 g of aldosterol at a time when the total world supply was only about 10 mg. Barton considered it his most satisfying piece of work. (b) Barton, D. H. R.; Beaton, J. M. *J. Am. Chem. Soc.* **1960**, *82*, 2641–2641. (c) Barton, D. H. R.; Beaton, J. M. *J. Am. Chem. Soc.* **1961**, *83*, 4083–4089. (d) Barton, D. H. R.; Lier, E. F.; McGhie, J. M. *J. Chem. Soc., (C)* **1968**, 1031–1040.
- Nickon, A.; Iwadare, T.; McGuire, F. J.; Mahajan, J. R.; Narang, S. A.; Umezawa, B. *J. Am. Chem. Soc.* **1970**, *92*, 1688–1696.
- Barton, D. H. R.; Hesse, R. H.; Pechet, M. M.; Smith, L. C. *J. Chem. Soc., Perkin Trans. 1* **1979**, 1159–1165.
- Barton, D. H. R. *Aldrichimica Acta* **1990**, *23*, 3–10. (Review).
- Majetich, G.; Wheless, K. *Tetrahedron* **1995**, *51*, 7095–7129. (Review).
- Sicinski, R. R.; Perlman, K. L.; Prah, J.; Smith, C.; DeLuca, H. F. *J. Med. Chem.* **1996**, *22*, 4497–4506.
- Anikin, A.; Maslov, M.; Sieler, J.; Blaurock, S.; Baldamus, J.; Hennig, L.; Findeisen, M.; Reinhardt, G.; Oehme, R.; Welzel, P. *Tetrahedron* **2003**, *59*, 5295–5305.
- Suginome, H. *CRC Handbook of Organic Photochemistry and Photobiology* 2nd edn.; **2004**, 102/1–102/16. (Review).
- Hagan, T. J. *Barton nitrite photolysis*. In *Name Reactions for Homologations-Part I*; Li, J. J., Corey, E. J., Eds.; Wiley & Sons: Hoboken, NJ, **2009**, pp 633–647. (Review).