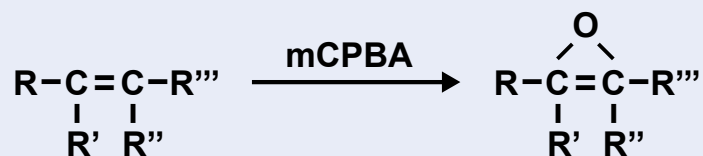


Meta-Chloroperoxybenzoic acid (mCPBA)

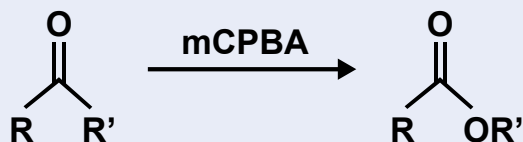
Oxidation reagents play a crucial role in organic synthesis and among the most important is meta-Chloroperoxybenzoic acid (mCPBA). Its popularity is due to outstanding reactivity and its ability to reduce the number of reaction steps in classical synthetic routes as well as its relative stability and ease of handling.

Its many uses include epoxidation, the Baeyer-Villiger Oxidation for conversion of ketones to esters, and the synthesis of sulfoxides and sulfones. Examples of key applications are shown below together with some literature references.

1. Epoxidation^{1,2,3,4,5,6}



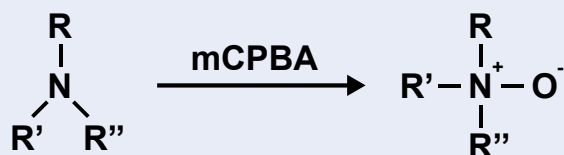
2. Baeyer-Villiger Oxidation^{7,8,9}



3. Synthesis of Sulfoxides & Sulfones^{10,11,12,13}



4. Synthesis of N-Oxides with tertiary amines^{14,15,16}



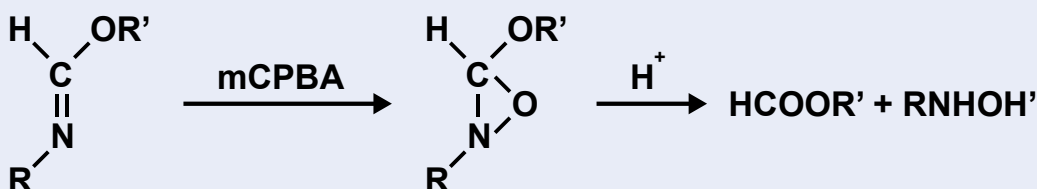
5. Synthesis of Nitro compounds with primary Amines¹⁷



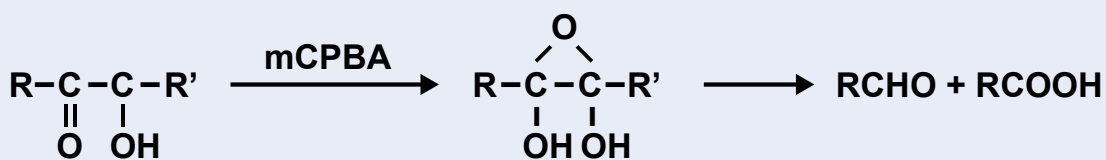
6. Conversion of Aziridines to Olefins¹⁸



7. Oxidation of Imino ethers to esters and hydroxylamines¹⁹



8. Synthesis of Aldehydes and Acids with α -Hydroxy ketones²⁰



9. Synthesis of Alcohols with primary Alkyl iodides²¹



Literature:

Fieser: 1, 135; 2, 68; 3, 49; 4, 85; 5, 120; 6, 110; 7, 62; 8, 97; 9, 108; 10, 92; 11, 122; 12, 118; 13, 76; 15, 86; 16, 80; 17, 76.

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