

Regiochemistry of mercury(II) oxide oxidation of unsymmetrical N,N-disubstituted hydroxylamines

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ABSTRACT

Mercury(II) oxide oxidn. of N,N-disubstituted hydroxylamines with the α and β carbon atoms contg. one and two hydrogen atoms, resp., gave aldonitrones in a highly regioselective manner. For example, the oxidn. of N-hydroxy-N-methylbenzenemethanamine (I) gave N-Methylphenylnitronone [i.e., N-(phenylmethylene)methanamine N-oxide] (II) and N-methylenebenzenemethanamine N-oxide (III) in a 62:38 ratio. Removal of the β proton is involved in the rate detg. step as shown by primary kinetic isotope effect.

