## DIOXOPYRROLINE, AN AMBIDENT DIENOPHILE IN DIELS-ALDER REACTION

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Enones as a dienophile in Diels-Alder reaction must be inherently ambident (path A and B). We now present examples, which we believe the first, of path B reaction of an enone system.

The Diels-Alder reaction of dioxopyrroline 1 with 1-methoxy-3-trimethylsilyloxy butadiene produced the normal 1,4-adduct 3 (path A). On the other hand, dioxopyrroline 2 on similar Diels-Alder reaction predominantly afforded the path B adduct 4 which was characterized as the corresponding desilylated compounds.

This unusual Diels-Alder reaction is attributable to the steric hindrance originated from the non-planarity of the aromatic ring with dioxopyrroline ring in the dienophile 3.

That the steric hindrance is a factor which influences the pathway of Diels-Alder reaction was also shown by the following examples. On the similar Diels-Alder reaction, the dioxopyrrolines 5 predominantly produced the path A adduct, when R=H or CH<sub>3</sub>, while 5 having more bulky N-substituents such as C<sub>2</sub>H<sub>5</sub>, i-Pr produced only the path B adduct. Rotational inhibition of phenyl group produced the steric hindrance which prohibits path A approach of the diene to the dienophile.