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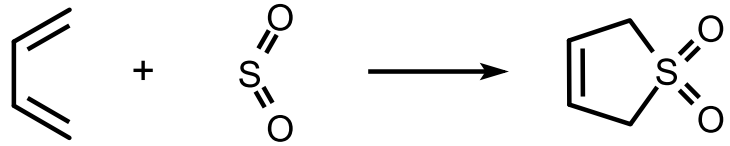
cheletropic reaction

A form of cycloaddition across the terminal atoms of a fully conjugated system with formation of two new σ-bonds to a single atom of the ('monocentric') reagent. There is formal loss of one π-bond in the substrate and an increase in coordination number of the relevant atom of the reagent. An example is the addition of sulfur dioxide to butadiene:



The reverse of this type of reaction is designated 'cheletropic elimination'.

Source:
PAC, 1994, *66*, 1077 *(Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994))* on page 1094

