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Possible causes of the stabilization of the axial S=O bond in cyclic sulfites and sulfoxides

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Abstract

1. The possible causes of stabilization of the axial S=O bond for six-membered cyclic sulfites and sulfoxides were discussed. In the case of sulfites, the basic role may be played by interaction between the unshared electron pairs of the endocyclic oxygen atoms and the free d-orbitals of the sulfur atom and dipole-dipole interaction. The influence of the Van der Waals attraction of the atoms and steric requirements of the unshared pair of electrons is negligible. 2. The energy difference between the conformers of thiacyclohexane-1-oxide with equatorial and axial positions of the S=O bond can be explained by dipole-dipole interaction. © 1971 Consultants Bureau.

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