

Photochemistry of the glyoxal-hydrogen peroxide complexes in solid argon: formation of 2-hydroxy-2-hydroperoxyethanal.

Autorzy

Małgorzata Mucha

Zofia Mielke

Rok wydania

2009

Czasopismo

Chemical Physics Letters

Numer woluminu

482

Strony

87-92

DOI

10.1016/j.cplett.2009.09.082

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

The structure and photochemistry of the glyoxal–hydrogen peroxide complexes isolated in solid argon was studied by help of FTIR spectroscopy and quantum chemistry methods. The comparison of the experimental spectra with the MP2/6-311++G(2d,2p) calculated ones indicates that glyoxal–hydrogen peroxide complexes trapped in the matrix have cyclic structures; each subunit acts as a proton donor and a proton acceptor. Exposure of the complexes to the $\lambda > 345$ nm radiation induces the addition reaction of hydrogen peroxide to glyoxal and formation of the 2-hydroxy-2-hydroperoxyethanal molecule.

Adres publiczny

<https://doi.org/10.1016/j.cplett.2009.09.082>

Strona internetowa wydawcy

<http://www.elsevier.com>