

Interaction of the Vanadyl(IV) Cation with L-Ascorbic Acid and Related Systems

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The interaction of VO^{2+} with L-ascorbic acid and dehydroascorbic acid was investigated by electronic spectroscopy in solution at different pH values. In the case of ascorbic acid, two different solid complexes containing one or two monodeprotonated ascorbate ligands could be isolated and characterized. With dehydroascorbic acid, interaction begins at pH = 4 but at higher pH values the ligand is hydrolysed irreversibly, generating 2,3-diketogulonic acid. A solid complex containing this ligand could be precipitated at pH = 7. Its spectroscopic behavior confirms the interaction of the cation with an enolised form of the acid.

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