

Nitrogen oxide production from nitrosorbidum and isosorbide mononitrate cardio — vascular drugs

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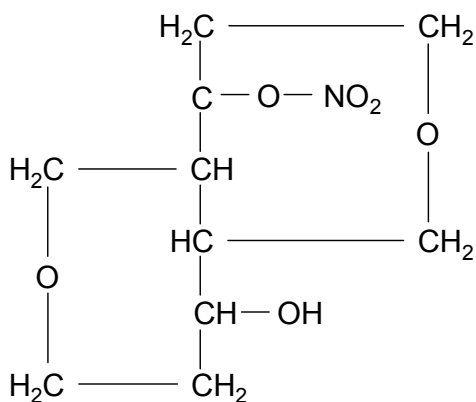
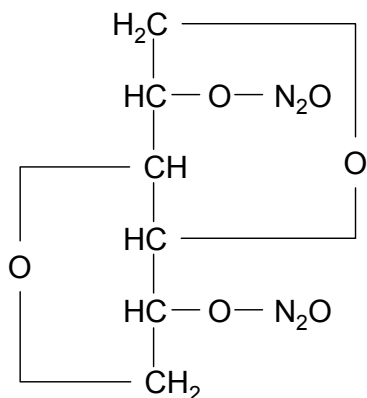
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Influence of both thioconsisting compounds and bivalence iron ions on the NO production at the disintegration of nitrosorbidum (1) and isosorbide mononitrate (2) medicinal preparations has been studied. During the last years these drugs widely used as periferic vasodilators at the hard forms of coronary deficiency.

(1) – Nitrosorbidum

(2) - Isorbide mononitrate



NO production form (1) and (2) solutions was registrated by two ways:

1. After releasing from drugs, NO involved into solution which consists of Fe²⁺ - diethyldithio-carbamate (DETC) complexes. As a result the mononitrosyl iron complexes with DETC has been registrated by the method ESR. According to intensity of these complexes ESIR - signal, the amount of nitrogen oxide molecules are determined.

2. After releasing the N¹⁴⁰ nitrogen oxide molecule was substituted by N¹⁵⁰ into preliminary synthezed Fe²⁺ - DETC- N¹⁵⁰ complexes. In spite of Fe²⁺ -DETC – N¹⁵⁰ complex doublet signal, the triple signal of mononitrosyl iron complexes with DETC, including N ¹⁴⁰ molecule has been registrated in the carried out experiment. This fact testified that there was not NO - production into solutions of (1) and (2). Production of free NO molecules, which involved into mononitrosyl iron complexes with DETC are observed after adding of cysteine, reduced glutathione or thiosulfate. The dinitrosyl iron complexes, called 2.03 complexes and characterized by an gav ~2.03 of the ESIR signal were registrated at the additional involving of the iron cystate complexes into (1) and (2) solutions. On the base of the results of carried out experiments it was assumed that (1) and (2) at the disintegration into organism capable form new compounds consist of NO. One of them is the 2.03 complexes, which demonstrated vazodilatatory and antitrombosis effect.