

Nano-dimensional oxides as catalysts for the nitric oxide release from S-nitrosothiols

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Nitric oxide (NO) is well known as endogenous vasorelaxant which causes vascular muscle relaxation and therefore reduces risks of heart diseases and ischemic stroke [1]. *In vivo* NO released by the endothelial cells through various stimuli, such as NO, or bound to a –SH group containing carrier molecule (e.g. glutathione or cysteine) that stabilizes NO release [2]. In this work two biomolecules as source of bioavailable NO S-nitrosogluthathione and S-nitroso albumin were synthesized using the method reported elsewhere [3] with some modifications. Nitrosolated biomolecules were characterized using UV and NMR spectroscopies; the Griess reaction was used to determine NO production.

NO release was catalytically induced with nano-oxides of copper, silica, cerium and mixed silica/copper oxide.

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