

Synthesis, electrochemical, and spectroscopic studies of novel S-nitrosothiols

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A series of S-nitrosothiol compounds, structurally related to the NO-donor

S-nitroso-N-acetyl-D,L-penicillamine (SNAP) that contain amidin groups were synthesised by

S-nitrosation of the corresponding thiols and characterised. The kinetics of decomposition were

investigated and showed that the two adenine-based thionitrites exhibited an unusual stability in

aqueous solution compared to SNAP, suggesting that these compounds may complex the traces of

free copper ions present in solution, which is known to catalyze the decomposition of thionitrites.

The electrochemical behaviour of these compounds and their nitric oxide-releasing potential were

studied by means of cyclic voltammetry techniques on mercury and glassy carbon electrodes. ©

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