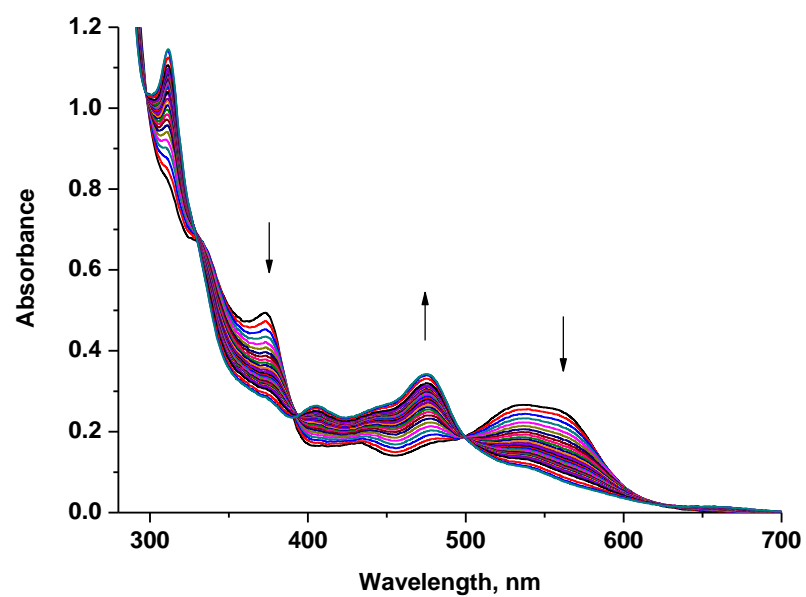


## **Supplemental Material**

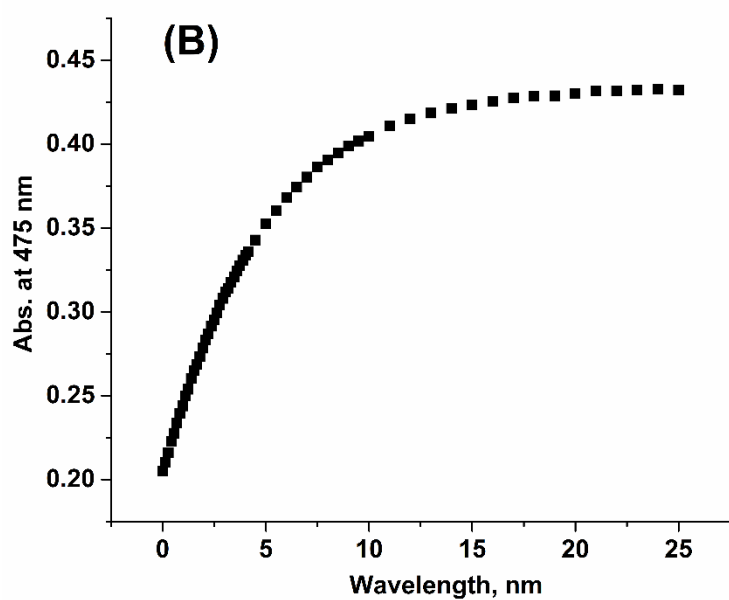
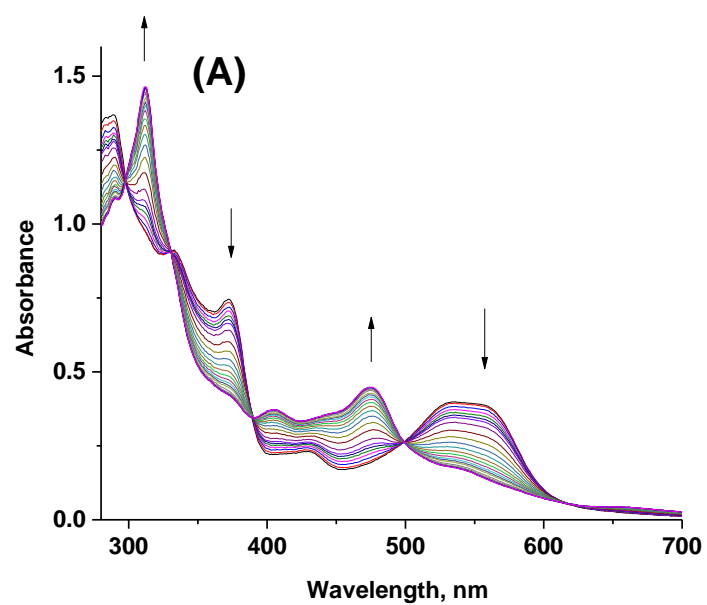
### **Mechanistic studies on the reaction between glutathionylcobalamin and selenocysteine**

Ilia A. Dereven'kov, and Sergei V. Makarov

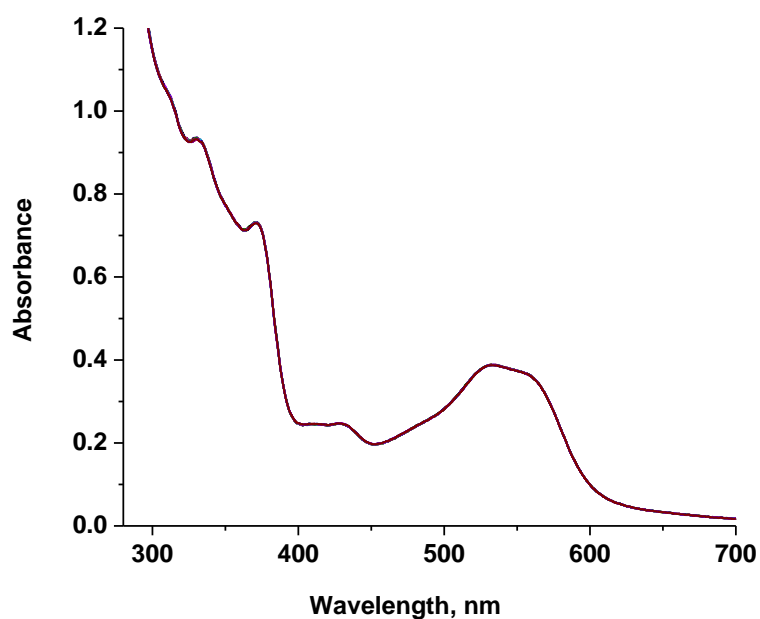
Institute of Macroheterocyclic Compounds, Ivanovo State University of Chemistry and Technology, Sheremetevskiy str. 7, 153000 Ivanovo, Russian Federation



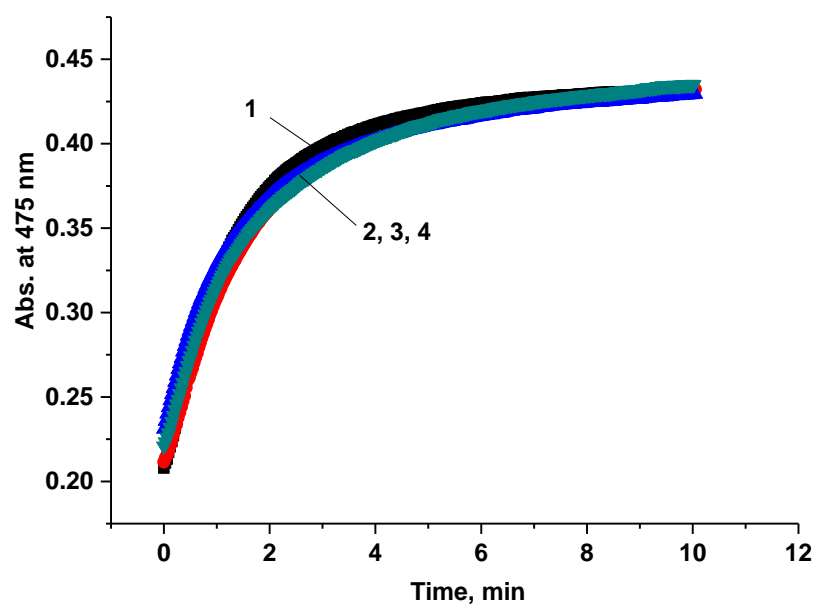
**Figure S1.** UV-vis spectra of the reaction between GSCbl ( $5.0 \cdot 10^{-5}$  M) and Sec ( $5.0 \cdot 10^{-4}$  M) in the presence of iodomethane ( $5.0 \cdot 10^{-3}$  M) at pH 7.1, 25.0 °C.



**Figure S2.** UV-vis spectra of the reaction between GSCbl ( $5.0 \cdot 10^{-5}$  M) and the mixture of selenocystine ( $6.1 \cdot 10^{-4}$  M) and GSH ( $5.0 \cdot 10^{-4}$  M; A) and typical kinetic curve of the reaction (B) at pH 7.1, 25.0 °C.



**Figure S3.** UV-vis spectra recorded during the incubation of the mixture of GSCbl ( $5.0 \cdot 10^{-5}$  M) and selenocystine ( $5.0 \cdot 10^{-4}$  M) for 1 hour at pH 7.1, 25.0 °C.



**Figure S4.** Kinetic curves of the reaction between GSCbl ( $5.0 \cdot 10^{-5}$  M) and Sec ( $2.0 \cdot 10^{-3}$  M) in the absence (1) and in the presence of free GSH (1.0, 3.0 and 5.0 mM – curves 2, 3 and 4, respectively) at pH 7.1, 25.0 °C.