

Supplemental materials

Polysulfide Na₂S₄ regulates the activation of PTEN/Akt/CREB signaling and cytotoxicity mediated by 1,4-naphthoquinone, through formation of sulfur adducts

Yumi Abiko^{a, #}, Yasuhiro Shinkai^{a, #}, Takamitsu Unoki^a, Reiko Hirose^a, Takashi Uehara^b, Yoshito Kumagai^{a, *}

^a Faculty of Medicine, University of Tsukuba, Tsukuba, Ibaraki 305-8575, Japan

^b Department of Medicinal Pharmacology, Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama University, Okayama 700-8530, Japan

Y.A and Y.S. contributed equally in this study

* Corresponding author. Yoshito Kumagai, Faculty of Medicine, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8575, Japan

Tel: +81-29-853-3297; Fax: +81-29-853-3259; E-mail yk-em-tu@md.tsukuba.ac.jp

Table of contents

Supplementary Figure S1.	2
Supplementary Figure S2.	3
Supplementary Figure S3.	4
Supplementary Figure S4.	5

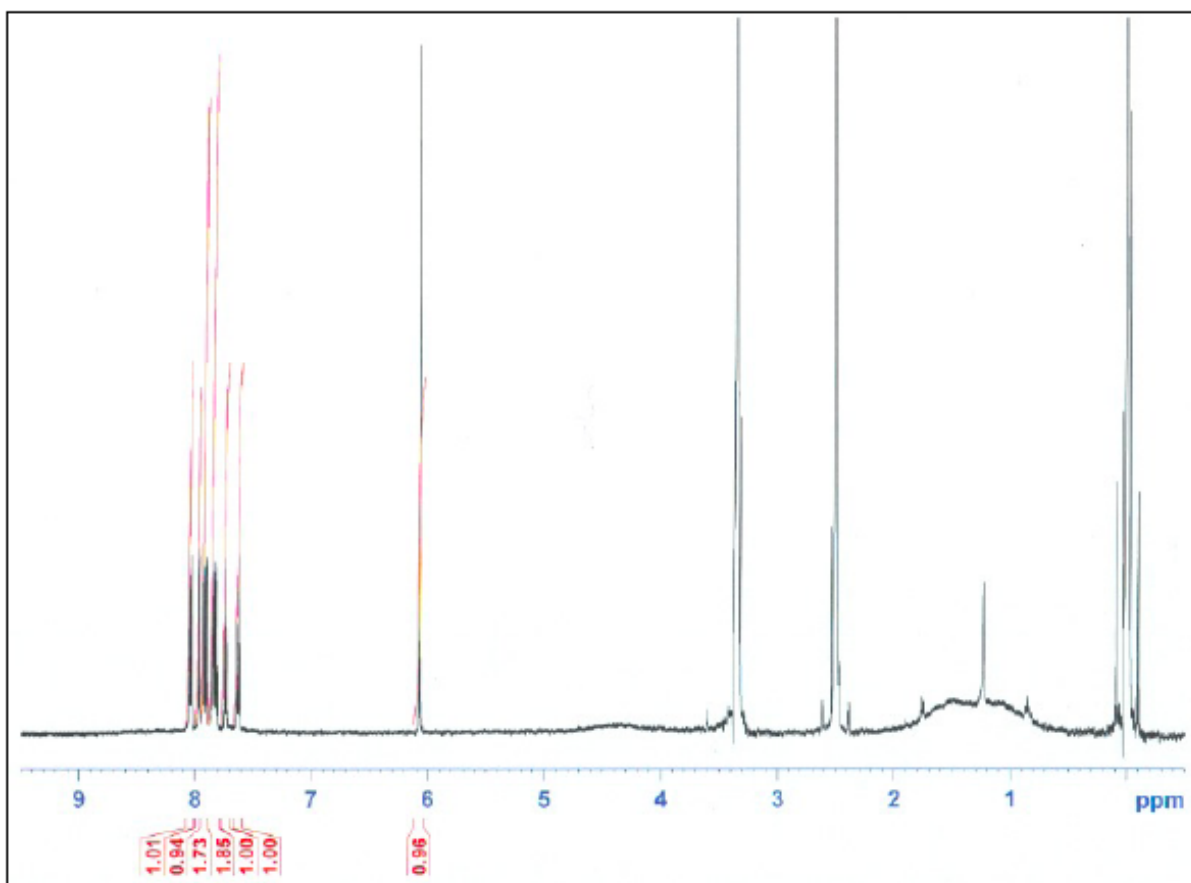


Figure S1. ^1H NMR spectrum of a sulfur adduct of 1,4-NQ.

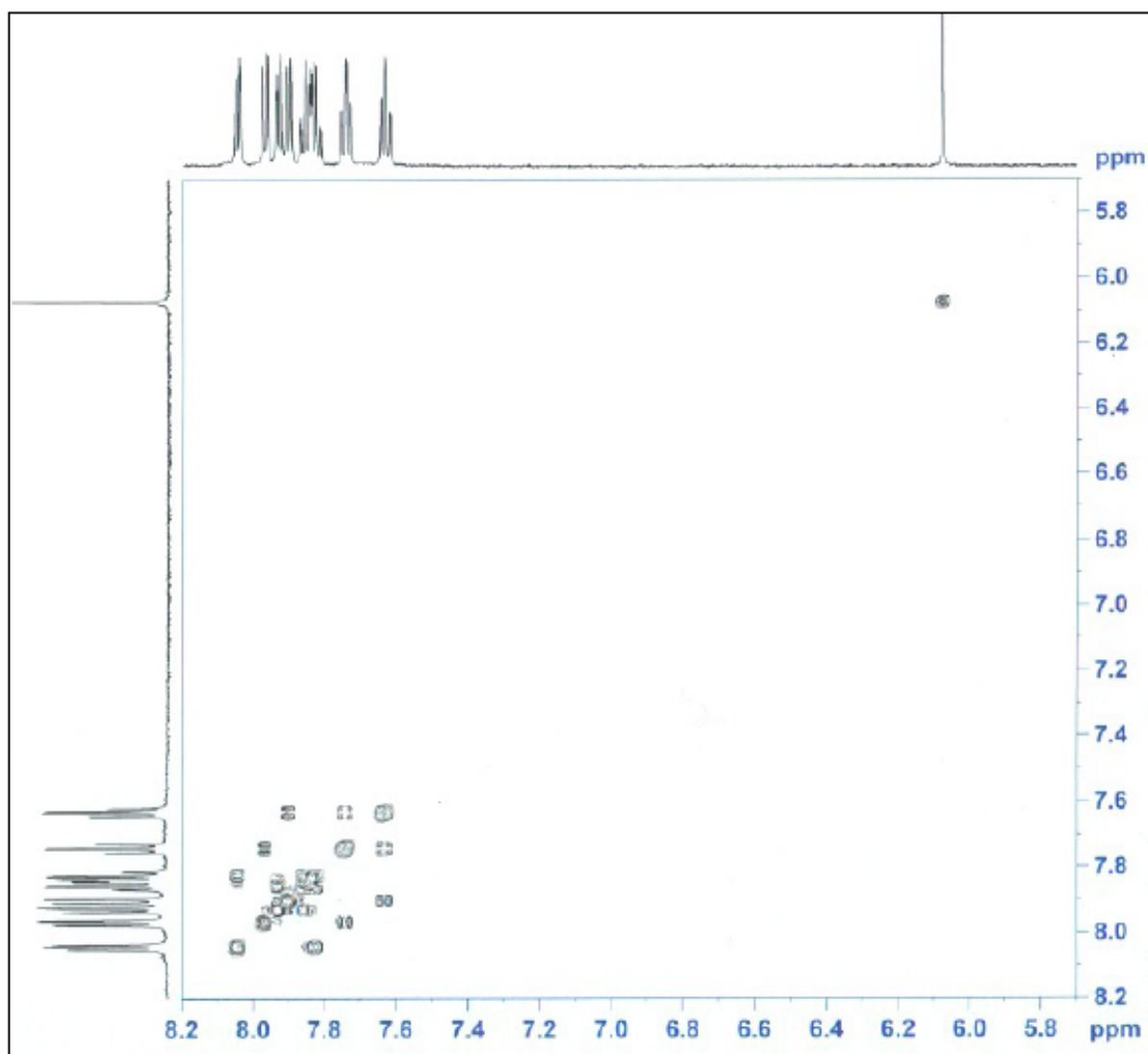


Figure S2. ^1H - ^1H COSY NMR spectrum of a sulfur adduct of 1,4-NQ.

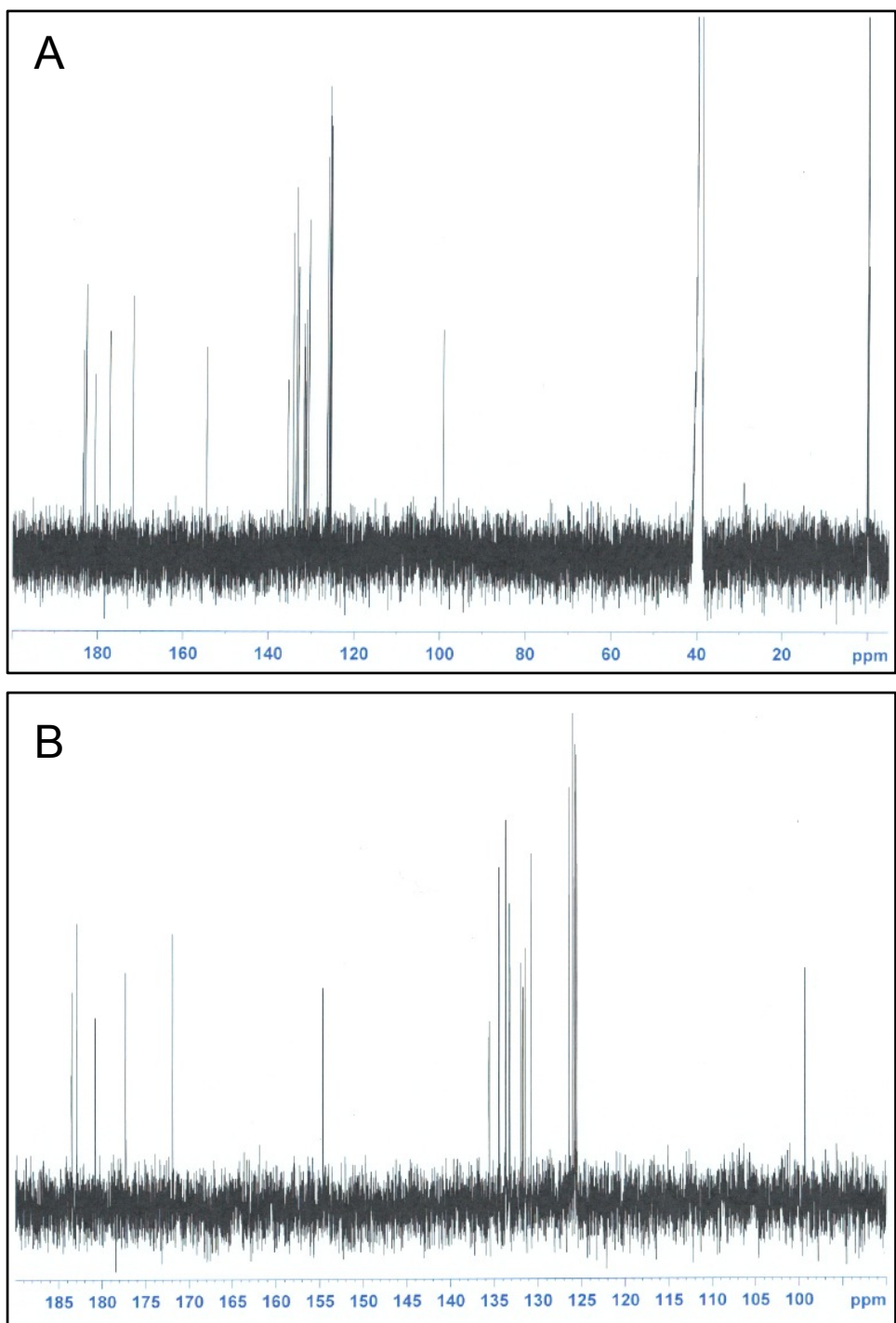


Figure S3. ^{13}C NMR spectrum of a sulfur adduct of 1,4-NQ. ^{13}C NMR spectrum (A) and a magnification of spectrum A (B) are shown.

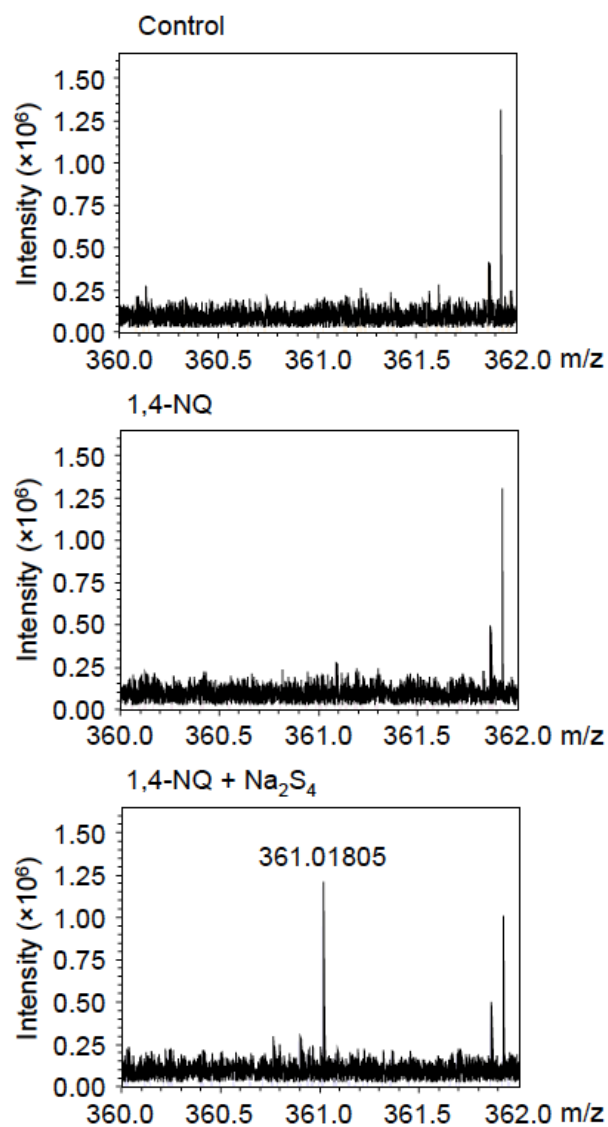


Figure S4. Detection of 1,4-NQ sulfur adducts in the culture medium. Mouse primary hepatocytes were exposed to 1,4-NQ (40 μ M) with or without 100 μ M Na₂S₄ for 30 min, then 1,4-NQ sulfur adducts in the culture medium were detected by FT-ICR-MS.