

Accessory Publication for:

Autoxidation of S^{IV} inhibited by chlorophenols reacting with sulfate radicals

Józef Ziajka and Krzysztof J. Rudzinski^A

Department of Catalysis on Metals, Institute of Physical Chemistry of the Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland.

^ACorresponding author: Tel. +48-22-3433402; fax: +48-22-3433448; Email: kjrudz@ichf.edu.pl.

submitted to Environ. Chem. 4(5)

Section Inhibition of S^{IV} autoxidation

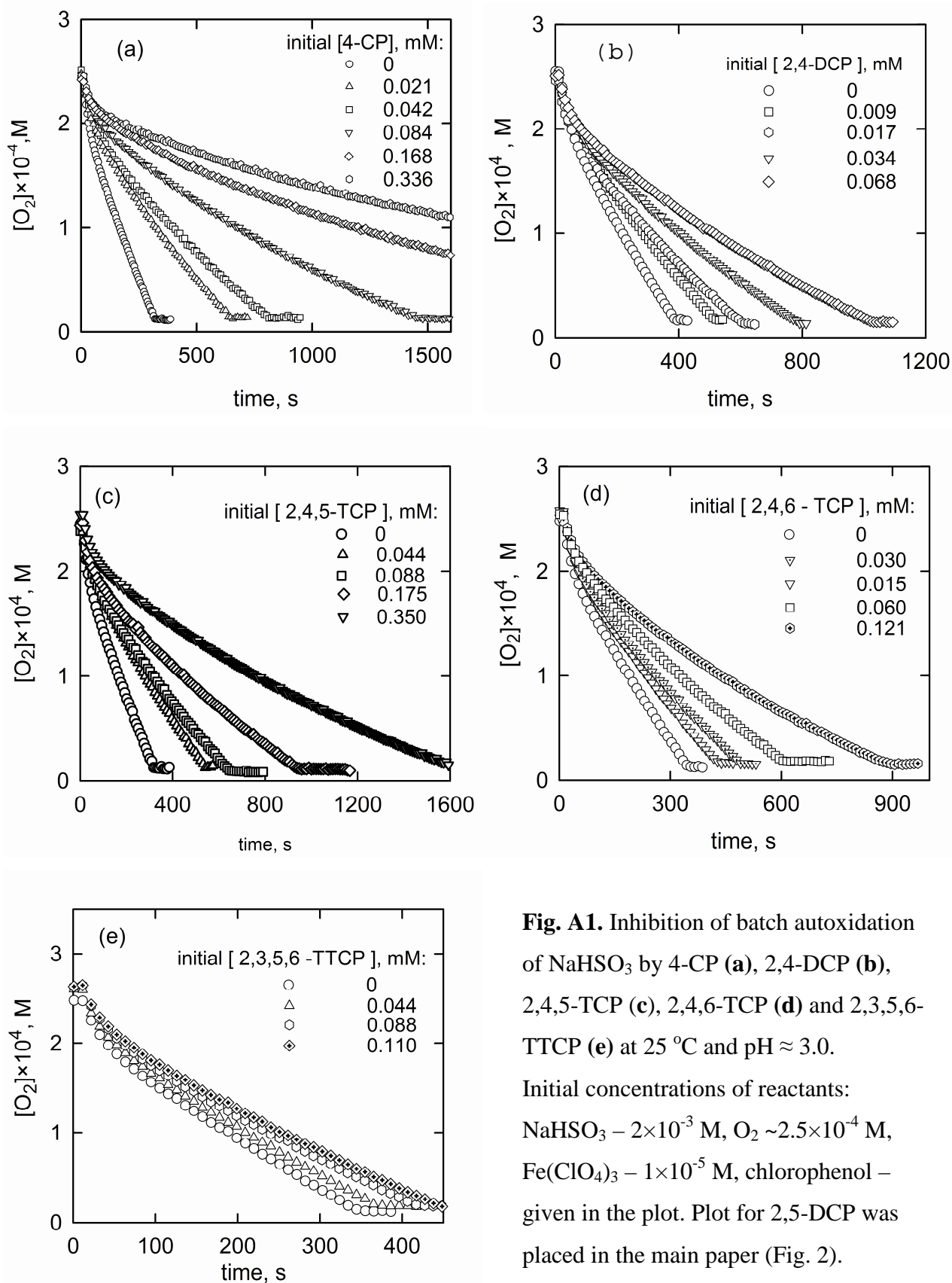


Fig. A1. Inhibition of batch autoxidation of NaHSO_3 by 4-CP (a), 2,4-DCP (b), 2,4,5-TCP (c), 2,4,6-TCP (d) and 2,3,5,6-TTCP (e) at 25 °C and $\text{pH} \approx 3.0$.

Initial concentrations of reactants:
 $\text{NaHSO}_3 - 2 \times 10^{-3} \text{ M}$, $\text{O}_2 \sim 2.5 \times 10^{-4} \text{ M}$,
 $\text{Fe}(\text{ClO}_4)_3 - 1 \times 10^{-5} \text{ M}$, chlorophenol – given in the plot. Plot for 2,5-DCP was placed in the main paper (Fig. 2).

Section Rate constants for reactions of chlorophenols with $\text{SO}_4^{\cdot-}$ radicals

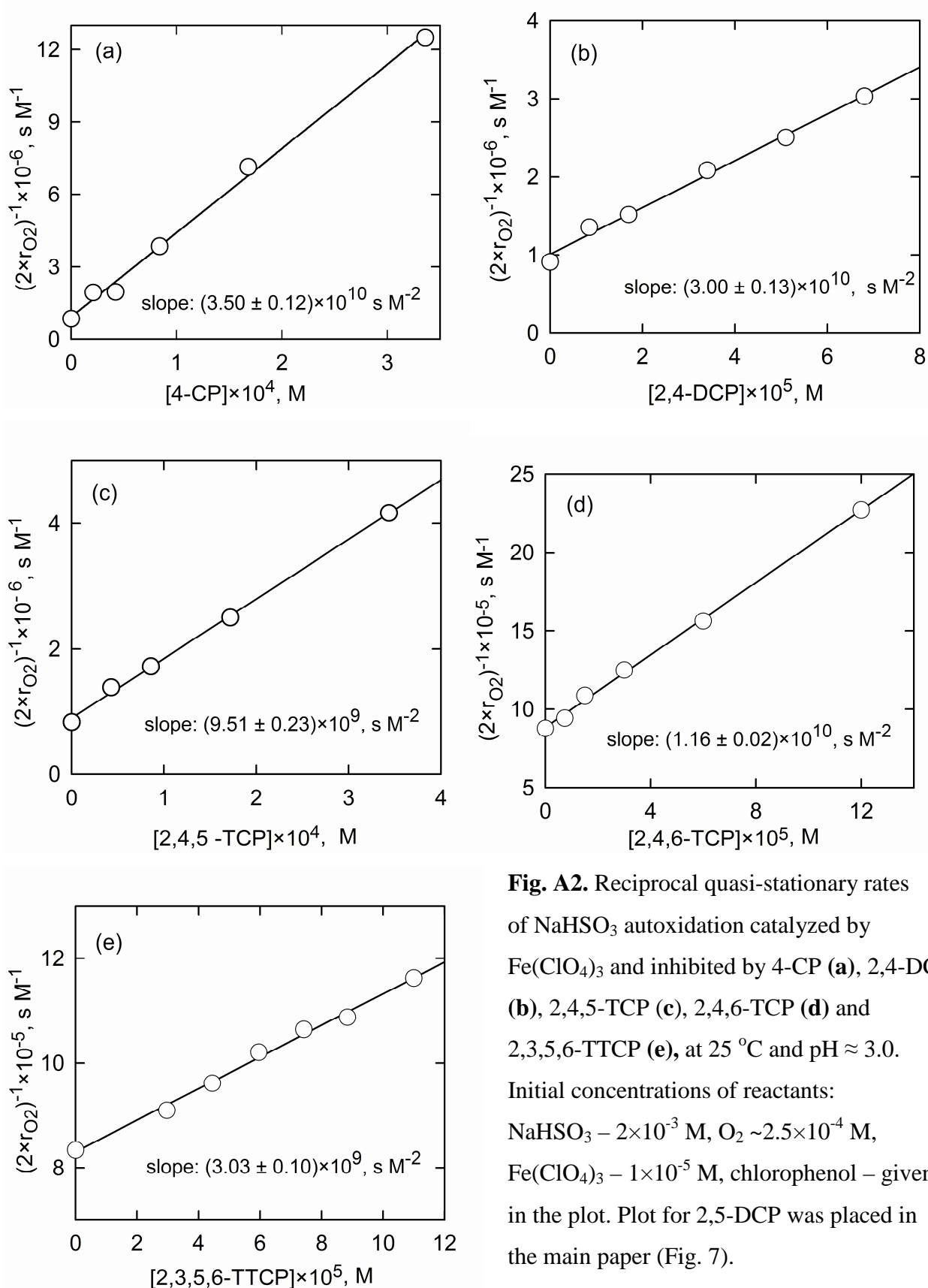


Fig. A2. Reciprocal quasi-stationary rates of NaHSO_3 autoxidation catalyzed by $\text{Fe}(\text{ClO}_4)_3$ and inhibited by 4-CP (a), 2,4-DCP (b), 2,4,5-TCP (c), 2,4,6-TCP (d) and 2,3,5,6-TTCP (e), at 25 °C and pH \approx 3.0. Initial concentrations of reactants: $\text{NaHSO}_3 - 2 \times 10^{-3}$ M, $\text{O}_2 \sim 2.5 \times 10^{-4}$ M, $\text{Fe}(\text{ClO}_4)_3 - 1 \times 10^{-5}$ M, chlorophenol – given in the plot. Plot for 2,5-DCP was placed in the main paper (Fig. 7).