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Stable Quinome Methides: Regioselective Para-Oxidation of a 2,4-Bisalkylthiomethenol and Addition Reaction Reaction to Quinonemethides

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STABLE QUINONE METHIDES: REGIOSELECTIVE PARA-OXIDATION OF A 2,4-BISALKYLTHIOMETHYLPHENOL AND ADDITION REACTIONS TO QUINONE METHIDES

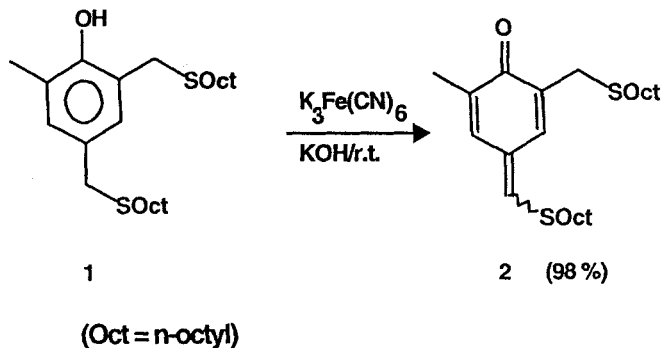
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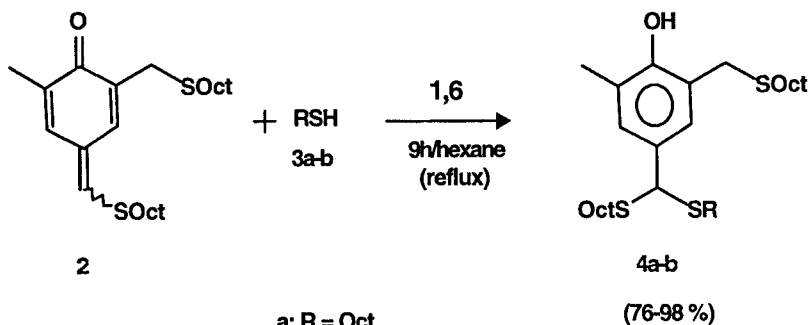
Hermann Fuhrer and Günther Rist

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The 2,4-bisfunctionalized phenol **1**, a commercial antioxidant, is dehydrogenated *regioselectively* with potassium ferricyanide, affording the corresponding p-quinone methide **2**. 1,6-Addition of nucleophiles e.g. thiols to **2** gives rise to the corresponding addition products e.g. the dithioacetals **4** of the corresponding substituted benzaldehyde. On the other hand, treatment of **2** with α,α' -azoisobutyronitrile at 90°C leads to compounds **5a-b** and **6**, addition products of the cyanopropyl radical to the quinone methide **2**. The structures of all products are confirmed mainly by $^1\text{H-NMR}$ - and $^{13}\text{C-NMR}$ -spectroscopy and the mode of their formation is discussed.



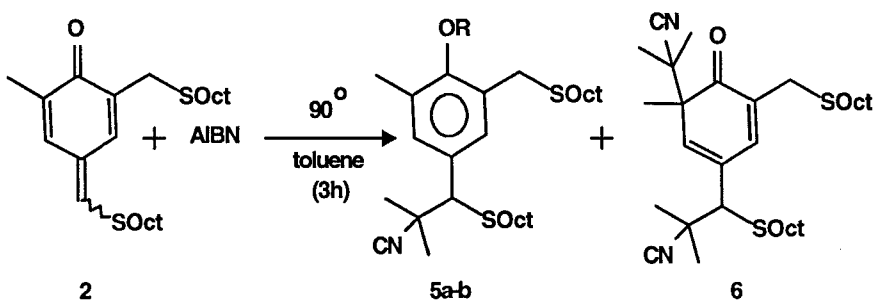
Literature: Hermann Fuhrer, Hanspeter Künzi, Hansrudolf Meier and Günther Rist, *Helvetica Chimica Acta*, 77, 655 (1994).



a: R = Oct

b: R = CH₂COOCH₃

(Oct = n-octyl)

a: R = C(CH₃)₂CN

b: R = H

Yields: 5a: 41 %; 5b: 5.5 %; 6: 14 %

