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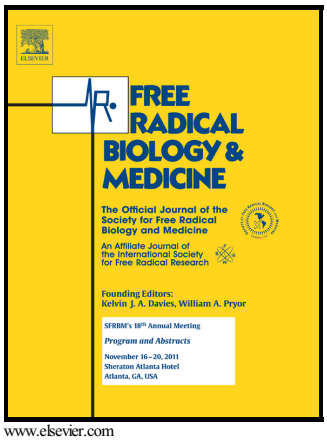

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Reactions of Isolated Persulfides Provide Insights into the Interplay between H_2S and Persulfide Reactivity

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Abstract

Hydrogen sulfide is ubiquitous in biological systems and exerts function over a wide range of important physiological processes. Complementing free H_2S, the reductant-labile sulfur pool plays significant roles in the translocation and action of sulfide, however the chemistry of reductant-labile sources of sulfide have not been studied systematically. Using a combination of NMR and UV-Vis spectroscopy, we investigated the spectroscopic properties and reactivity of three isolated organic persulfides and report a simple model for persulfide reactivity, including their roles as nucleophiles, electrophiles, and sulfide donors.