



## Signaling Molecules: Hydrogen Sulfide and Polysulfide

Guest Editor:

**Prof. Dr. Claus Jacob**

Division of Bioorganic Chemistry,  
School of Pharmacy, Saarland  
University, D-66123  
Saarbruecken, Germany

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### Message from the Guest Editor

Dear Colleagues,

During the last decade, various inorganic polysulfides ( $H_2S_x$ ,  $x \geq 2$ ) have emerged as potential and potent cellular signalling molecules. Numerous (bio)chemical reactions and biological activities have been ascribed to these astonishingly simple reactive sulfur species (RSS), ranging from chemopreventive and antioxidant properties to intricate posttranslational protein modifications and redox signalling.

Indeed, whilst inorganic polysulfides are—chemically speaking—among the most “primitive” molecules, *i.e.* sulfur chains composed exclusively of sulfur and some hydrogen, their reactivity resembles the one of  $H_2S$  on the one side and that of organic polysulfides/polysulfanes ( $RS_xR$ ,  $x > 2$ ).

Since these RSS are intrinsically difficult to detect. As part of this Special Issue, chemistry and biochemistry will join up to solve some of the challenges of sulfur redox biology, from the appearance, activities, and possible applications of  $H_2S$  and  $H_2S_x$  to the interactions of such species with thiols, disulfides, selenium, cysteine proteins, and redox signalling via the cellular thiolstat.

Prof. Dr. Claus Jacob  
*Guest Editor*





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### Prof. Dr. Thomas J. Schmidt

Institute of Pharmaceutical  
Biology and Phytochemistry,  
University of Münster,  
Corrensstrasse 48, D-48149  
Münster, Germany

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*Molecules* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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