

Special Issue

Signaling Molecules: Hydrogen Sulfide and Polysulfide

Message from the Guest Editor

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.

Guest Editor

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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