

# THE SILICON-SULFUR ALLIANCE: STRUCTURE AND PROPERTIES OF TRANSITION METAL SILANETHIOLATES

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A major goal of modern coordination chemistry is to design new frameworks with useful properties like luminescence, catalysis, or magnetism. To achieve this, it is crucial to understand how their molecular structure dictates these functions. Researchers frequently use a wide variety of ligands to build such systems, carefully testing how different chemical components influence the final material's properties.

In this seminar, Agnieszka Pladzyk from Gdańsk University of Technology will present her group's research on using silanethiolates as versatile S- and S,O-donor ligands. The focus will be on the relationship between structure and spectroscopic properties in the resulting transition metal complexes. These building blocks help construct stable mono- and polymetallic systems with various architectures [1]. Additionally, the obtained complexes show distinct catalytic, optical, and magnetic profiles. The talk will provide an overview of recent progress in this field, discussing both synthetic methods and key physicochemical insights.

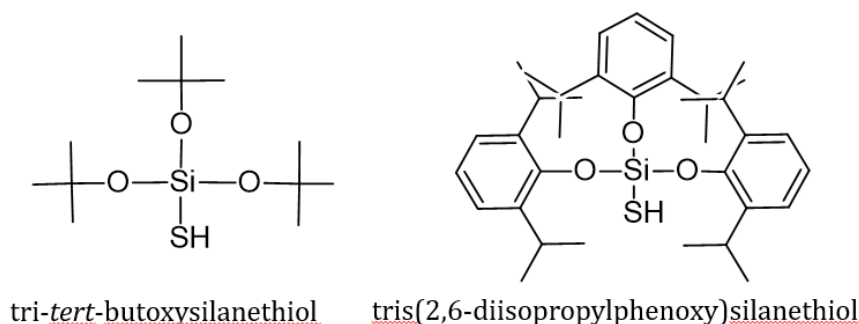


Figure 1. The structure of tri-*tert*-butoxysilanethiol (left) and tris(2,6-diisopropylphenoxy)silanethiol (right).

[1] Pladzyk, A. *et al.* Coord. Chem. Rev. 2021, 433, 213761.