

Organochalcogen compounds and their metal complexes. Synthesis, structure and potential applications

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Organoselenium compounds continue to attract a significant interest as valuable candidates in medicinal chemistry,¹ catalysis and organic synthesis,² or as key species for optoelectronic devices.³ A special attention was paid during last years to derivatives bearing organic groups with nitrogen or oxygen donor atoms, showing an increased thermal and hydrolytic stability and enhanced specific properties.

Our recent studies were focused on new classes of diorganodichalcogenides or homo- and heteroleptic diorganochalcogen(II) compounds bearing organic groups with N or O donor atoms, as well as on their main group or late *d* metal complexes.

We report here about compounds of type R_2Se_2 and R^1R^2E ($E = S, Se$), where $R^1, R^2 = 2-XC_6H_4CH_2$ ($X = Br, Me$), $2-(R_2NCH_2)C_6H_4$ [$R = Me, Et; R_2 = (CH_2CH_2)_2O$], CH_2CH_2pz ($pz =$ pyrazole), CH_2Phtz ($Phtz =$ phenylthiazole), as well as upon several pyridine based derivatives bearing organoselenium moieties.

Their coordination behavior towards main group (Sn) and late *d* metals (Cu, Ag, Au, Zn, Cd) was investigated. Selected compounds were tested for their biological properties, e.g. antiproliferative or antioxidant activity, as appropriate.

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3. S. Panda, A. Panda, S. S. Zade, *Coord. Chem. Rev.*, **2015**, 300, 86.