

## MS19-P02 | SELF-ASSEMBLY OF OCTANUCLEAR COMPLEXES CONTAINING TETRA- AND PENTACOORDINATE Co(II) CENTERS

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In this work we report on synthesis, crystal structures, spectroscopic and magnetic properties of octanuclear Co(II) complexes, which were prepared by self-assembly of Co(II) perchlorates or tetrafluoroborates with neocuproine in alcoholic solutions (MeOH or PhOH) and in the presence of aliphatic triamines. The resulting molecular structures contain alcoholate and carbonate bridging ligands and each Co(II) metal center is coordinated by neocuproine ligand. Remarkably, all the central atoms are tetra- or pentacoordinate and aliphatic triamines do not coordinated the Co(II) atoms.

Magnetic properties of the prepared compounds were investigated by magnetometry and EPR spectroscopy. It was revealed that magnetic exchange interactions are of antiferromagnetic nature. The experimental investigations were supported by BS-DFT and CASSCF theoretical calculations.