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# **BOOK of ABSTRACTS**

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**ICTM P-12****Mechanochemical Synthesis of Cu(II) dithiocarbamate complex: Advantages Over Traditional Solution-Based Methods**

Milica Kosović Perutović,<sup>a\*</sup> Slađana Kovačević,<sup>a</sup> Marija Ristić,<sup>b</sup> Jana Mišurović<sup>a</sup> and Zorica Leka<sup>a</sup>

<sup>a</sup>*Faculty of Metallurgy and Technology, University of Montenegro, Podgorica, Montenegro*

<sup>b</sup>*Faculty of Science, University of Kragujevac, Kragujevac, Serbia*

[\\*mkosovic@ucg.ac.me](mailto:mkosovic@ucg.ac.me)

According to IUPAC, mechanochemistry is identified as one of the top 10 emerging technologies in chemistry with a positive impact on sustainable development. In previous studies, the coordination of ammonium-iminodiacetate dithiocarbamate with Cu(II) ions was investigated using traditional solvent-based methods that required the addition of HCl during complex formation.<sup>1</sup> To avoid the use of solvents and harsh chemicals, mechanochemical syntheses were conducted by directly mixing ligand with various Cu(II) salts in a planetary ball mill.

IR spectra were recorded after 15 min, 30 min, and 1 h, showing completion of the reaction within only 15 min under all conditions (different jar materials, numbers of balls, and mixing durations). The complexes were characterized by elemental analysis, IR and UV-Vis spectroscopy, which confirmed that Cu(II) ions are coordinated through sulfur as donor atoms (regardless of the conditions of mechanochemical synthesis).



**Keywords:** mechanochemistry, complex, dithiocarbamate, green synthesis

**References**

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