Poster Presentation

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Supramolecular architecture of PGM-arene-amino acid complexes

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Arene complexes of Platinum Group Metals (PGM) show various biological effects and there are several promising anticancer drug candidates in this class of compounds. Synergism of biological activity is foreseen when anciliary ligands such as amino acid derivatives or other bioligands are incorporated into the complexes. A series of Ru(II), Os(II), Rh(III) and Ir(III) complexes were studied and interesting kinetic/equilibrium/structural properties could be revealed [1-3]. According to our latest results presented here the N-acetylcysteine complex of the [(η6-Ar)Ru]2+ core (Ar = p-cymene) is a dimer showing bridging thiolate and chloride cordination (Figure 1, a) while a monomeric complex was formed with [S, COO–,NH2] coordination for S-methyl-cysteine when the counter ion is nitrate (Figure 1, b). With methionine an analogous compound was formed (Figure 1, c). Supramolecular analysis of the complexes indicates competing steric/Coulombic/van der Waals interactions and hydrogen bonds. X-ray diffraction and spectroscopic analysis revealed the structure of the complexes both in solution and in the solid state and also support kinetic/equilibrium findings. Acknowledgement: The research was supported by the EU and co-financed by the European Social Fund under the project ENVIKUT (TÁMOP-4.2.2.A-11/1/KONV-2012-0043). The work was supported by the Hungarian Scientific Research Fund (OTKA K76142), too. P.B. thanks members of the EU COST Action CM1105 for motivating discussions. G.B. acknowledges the support of the Bolyai János Scholarship of the Hungarian Academy of Sciences.

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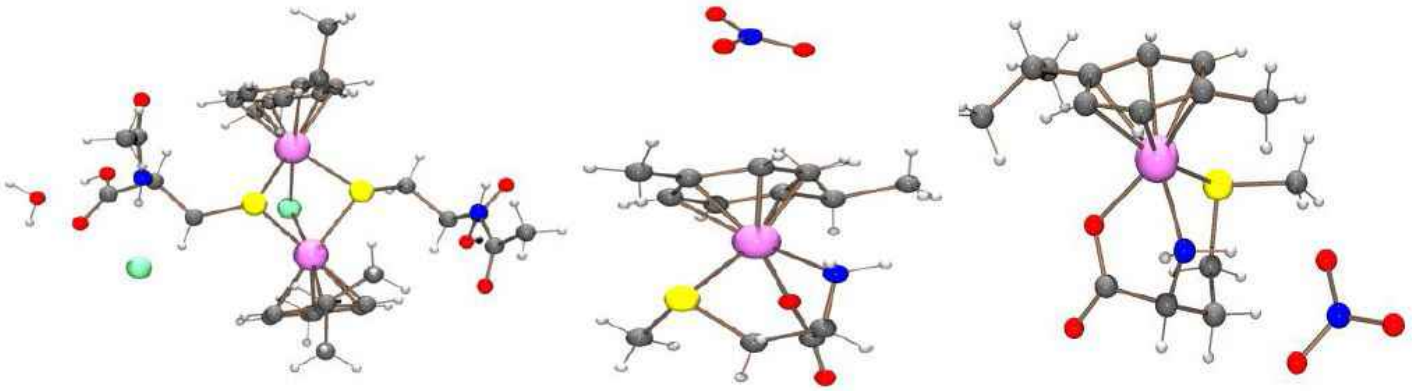

Figure 1

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