Challenges and opportunities of heterometallic complexes in biological systems

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Luminescent transition metal complexes have some advantages for life science applications over the more commonly used organic dyes. Their superior photophysical properties (higher photostability, larger Stokes shifts and long-lived excited states, often combined with high quantum efficiencies) make them optimal candidates for cellular imaging techniques. Heterometallic species composed by two distinct metal fragments connected through a linker, where each of the fragments is specifically designed for either cell imaging or therapeutic applications have emerged as ideal candidates for theranostic applications.

Prof. M. Concepción Gimeno graduated in Chemistry at the University of Zaragoza and carried out the Ph.D. Thesis, under the supervision of Professors Rafael Usón and Antonio Laguna, at the same University. She carried out a postdoctoral stay at the University of Bristol with Prof. Gordon Stone, working on the synthesis and reactivity of transition metal carbines. In 1990 she obtained a position as Senior Scientist of the CSIC, in the Institute of Chemical Synthesis and Homogeneous Catalysis, and later, he got the promotion to Scientific Researcher in 2000 and Research Professor in 2008. Her scientific interests are focused on the design, study and analysis of new group 11 metal compounds with specific catalytic, luminescent and/or biological properties and with potential applications. She is author of more than 270 scientific publications among articles, reviews, and book chapters, and a licensed patent under exploitation, which received more than 7200 citations (h-index 44). She is editor of the journals Gold Bulletin and Molecules, and Member of the Advisory Board of Chemistry a European Journal and European Journal of Inorganic Chemistry. She has been awarded with the "IUPAC 2017 Distinguished Women in Chemistry and Chemical Engineering", the "Excellence in Research of the Organometallic Chemistry Group (GEQO)" in 2017, and the "Excellence in Research of the Spanish Royal Society of Chemistry (RSEQ)" in 2018, among others. http://conchita-gimeno.webs.com/