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María E. Alea-Reyes, Oriol Penon, Paula García Calavia, María J. Marín, David A. Russell, Lluïsa Pérez-García

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Synthesis and *in vitro* phototoxicity of multifunctional Zn(II)meso-tetrakis(4-carboxyphenyl)porphyrin-coated gold nanoparticles assembled *via* axial coordination with imidazole ligands

María E. Alea-Reyes,^{a,b} Oriol Penon,^{a,b} Paula García Calavia,^c María J. Marín,^c David A. Russell,^{c*} and Lluïsa Pérez-García^{a,b,1*}

^aDepartament de Farmacologia, Toxicologia i Química Terapèutica, Universitat de Barcelona, Avda. Joan XXIII 27-31, 08028 Barcelona, Spain. E-mail: mlperez@ub.edu; malearey7@alumnes.ub.edu; oriolpenon@gmail.com

^bInstitut de Nanociència i Nanotecnologia UB (IN2UB), Universitat de Barcelona, Avda. Joan XXIII 27-31, 08028 Barcelona, Spain.

^cSchool of Chemistry, University of East Anglia, Norwich Research Park, Norwich, Norfolk, NR4 7TJ, UK. E-mail: p.garcia-calavia@icenidiagnostics.com; m.marin-altaba@uea.ac.uk; D.Russell@uea.ac.uk

ABSTRACT

*Corresponding author at: Departament de Farmacologia, Toxicologia i Química Terapèutica, Universitat de Barcelona, 08028 Barcelona, Spain, Telephone: (+34) 934035849. Fax (+34) 934024539
E-mail address: mlperez@ub.edu

¹ Present address: School of Pharmacy, The University of Nottingham, University Park, Nottingham, NG7 2RD, United Kingdom

²Abbreviations: Reactive Oxygen Species (ROS). Photodynamic Therapy (PDT). Gold Nanoparticles (GNP). Singlet Oxygen (¹O₂). Photosensitisers (PS). Dynamic Light Scattering (DLS). High-Resolution Transmission Electron Microscopy (HRTEM). Dimethyl sulfoxide (DMSO). Methanol (MeOH). Dimethylformamide (DMF). Gold (III) chloride trihydrate (HAuCl₄·3H₂O). Methyl imidazole (Im-C₁). Octadecylimidazole (Im-C₁₈). Sodium borohydride (NaBH₄). 1-(11-Mercaptoundecyl)imidazole (Im-C₁₁-SH). (11-Mercaptoundecyl)hexa(ethylene glycol) (HS-C₁₁-(EG)₆-OH). Sodium chloride (NaCl). Sodium phosphate monobasic (NaH₂PO₄). Fetal Bovine Serum (FBS). 9,10-Anthracenediyl-bis(methylene)dimalonic acid (ABMA). Potassium chloride (KCl). Calcium chloride dihydrate (CaCl₂·2H₂O). Magnesium chloride hexahydrate (MgCl₂·6H₂O). 4-(2-Hydroxyethyl)piperazine-4-ethanesulfonic acid (HEPES). Bovine Serum Albumin (BSA), Sodium phosphate dibasic (Na₂HPO₄), Potassium phosphate monobasic (KH₂PO₄). Ethylenediaminetetraacetic acid (EDTA). L-glutamine (L-Gln). Human breast adenocarcinoma cells (SK-BR-3). Hank's Balanced Salt Solution (HBSS). Phosphate buffered saline (PBS). Zn(II)-meso-tetraphenylporphyrin (ZnTPP). Zn(II)meso-tetrakis(4-carboxyphenyl)porphyrin, sodium salt (Na-ZnTCPP). Tetrakis(4-carboxyphenyl)porphyrin, sodium salt (Na-H₂TCPP).

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