Synthesis and Biological Properties of Palladium(II) Cyclometallated compounds derived from (*E*)-2-((4-hydroxybenzylidene)amino)phenol

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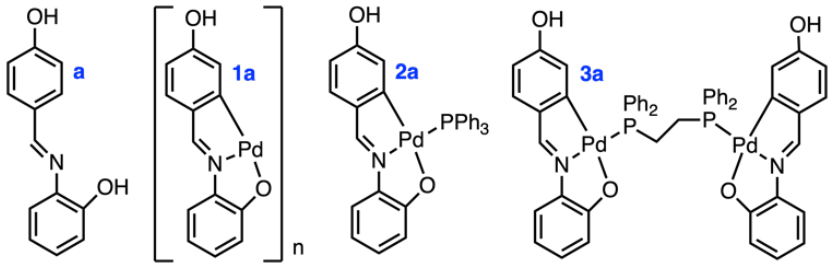
Palladium(II) compounds, containing chelating and good σ-donor or π-acceptor ligands and with steric hindrance around the palladium(II) centres, usually present good profiles as anticancer, antimicrobial and antiparasitic drugs [1, 2]. Therefore, we studied for compounds **a**, their cytotoxicity, antibacterial and antioxidant activities, and their ability to modify the electrophoretic mobility of the pBluescript SK+ plasmid DNA in agarose gel, and to inhibit topoisomerases I and IIα. Compounds **a** were prepared by an adaptation of known procedures [3].

Most of compounds **a** were non-cytotoxic or poorly cytotoxic against the MDA-MB-231 and MCF-7 breast and HCT-117 colon human cancer cell lines. Nonetheless, **2a** was moderately cytotoxic against the MCF-7 breast (IC_{50} = 7.8 ± 1.7 μM) and HCT-116 colon (IC_{50} = 31 ± 5 μM) human cancer cell lines and presented a very low cytotoxicity towards normal human BJ cells (IC_{50} = 86 ± nd μM). Compounds **a** showed also a moderate antibacterial activity against some Gram-positive (B. subtilis and S. aureus) and Gram-negative (E. coli) bacterial strains. In addition, compounds **a** presented a moderate antioxidant activity in the DPPH free radical scavenging assay, having **3a** the best antioxidant activity of the series (IC_{50} = 0.08 mM) in relation to ascorbic acid (IC_{50} = 0.05 mM) in this assay. **1a** was the unique compound of the series that produced a change on the electrophoretic mobility of the pBluescript SK+ plasmid DNA in the agarose gel. This change followed the pattern of *cisplatin*, but started to take place at a concentration twenty times higher than with *cisplatin*. In addition, compounds **a** were unable to inhibit topoisomerase I at a concentration of 100 μM, but **1a** – **3a** inhibited topoisomerase IIα at concentrations of 10, 50 and 25 μM, respectively. In the poster session, we will give details on the synthesis, characterization, and biological properties of this series of cyclopalladated compounds derived from imine **a**.



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