



CONSIGLIO NAZIONALE DELLE RICERCHE
Istituto di Chimica dei Composti Organometallici – ICCOM

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Oggetto: Relazione scientifica della visita del Professor **PAUL J. DYSON** (Institut des Sciences et Ingénierie Chimiques, Ecole Polytechnique Fédérale de Lausanne) nell'ambito del programma di mobilità di breve durata dei ricercatori per l'anno 2009

Scientific Report

Catalysis in ionic liquids

A series of compounds developed in the group in Firenze headed by M. Peruzzini were tested for catalytic activity in ionic liquids. The aim of these experiments was to observe if the ionic liquids induce higher activities or selectivities compared to when the catalysts are used in organic solvents. In general significant differences were not observed between the ionic liquid and organic solvent systems. However, given the time constraints of the experimental work the most promising compounds were selected and taken to Lausanne where further studies will be continued.

In addition to the catalytic project a joint manuscript was prepared during the visit and it is expected that it will be completed in the next 4 – 6 weeks. The manuscript describes previous collaborative research between the two laboratories and includes the synthesis of new organometallic compounds and an evaluation of their biological properties. In detail, a series of iridium compounds bearing a pentamethylcyclopentadienyl ligand and at least one 1,3,5-triaza-7-phosphaadamantane ligand has been synthesized and screened for their cytotoxic activities against selected human cancer cell lines. The manuscript will be submitted to a high quality international journal.

Lengthy discussions have also led to several new ideas that involve an active participation between the two laboratories. These ideas encompass both catalytic studies and biological studies of organometallic compounds. It is clear that these new collaborative projects would not have started without the scientific visit. It is also intended that joint European funding will be sort to help finance these projects.

Both the applicant and recipient of the funding from the CNR Short term Mobility program 2009 of are very grateful as it allowed new research projects to be explored, a manuscript to be prepared, and many new ideas and future research will come from the visit.

A handwritten signature in black ink, appearing to read 'Maurizio Peruzzini', with a stylized, cursive script.

Dr. Maurizio Peruzzini

Research Director at ICCOM CNR