

**Final Report**

**PITTCON (Pittsburgh Conference on Analytical Chemistry)**

**Conference Attendance and Presentation**

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**B. Restatement of Problem:** The purpose of this proposal was to get financial support to attend PITTCON Conference in Orlando, Florida. PITTCON Conference and Expo 2012 from March 11 to March 15, 2012. We presented our exciting research results in this 2012 PITTCON conference.

**C. Brief Review of Research Presented:** This presentation deals with the synthesis and spectroscopic investigation of homometallic dinuclear ruthenium(II) complex containing chlorophenanthroline and bipyridine ligands. This bimetallic ruthenium polypyridine complex may be useful for biological electron transfer studies. Heteroleptic ruthenium monomer complex  $\text{Ru}(\text{bpy})_2(\text{Cl-phen})$  (where  $\text{bpy} = 2,2'$ -bipyridine and  $\text{Cl-phen} = 5\text{-chloro-}1,10\text{-phenanthroline}$ ) was prepared in a two step procedure previously developed in our laboratory. This monomer complex was used to prepare the ruthenium dimer complex,  $(\text{bpy})_2\text{Ru}(\text{phen-phen})\text{Ru}(\text{bpy})_2$ , by utilizing the Ni-catalyzed coupling reaction. Both the complexes were purified by column chromatography. The identity and the integrity of the complexes were confirmed by elemental analysis as well as mass spectroscopy. The calculated and the experimental values for the elemental analysis were in good agreement. The calculated and experimental molar masses of the dimer complex were also identical. UV/Vis absorption, emission spectroscopic method, and cyclic voltammetric method were used to investigate the properties of the dimer complex.

**D. Outcomes and Experiences:** PITTCON Conference is considered to be the most respected and prestigious scientific meetings for analytical chemistry in the whole world. Thousands of analytical chemists attended this meeting and presented their latest research results and findings. The technical program consists of more than 2000 scientific presentation and more than 1000 scientific companies from more than 85 countries brought their latest instrumental developments in this meeting. This was a great opportunity for professional development and collaboration. This meeting was the excellent venue for scientific networking, sharing exciting research results and discussing various issues regarding research instrumentation. This meeting was very helpful to get new research ideas and directions.

**E. Conclusion:** PITTCON maintains and publish the data base of all the abstracts presented in the meeting. The results of this proposed presentation was included in a research manuscript and the manuscript was published in Journal of the Arkansas Academy of Science (Volume 65). Some of the results from this research were included in my Instrumental Analysis class at Arkansas Tech University. Attending this meeting helped me in professional development.