



## Cyclic Voltammetry of Oxidative Addition Reactions of Organohalides to an Organoplatinum (II) Complex

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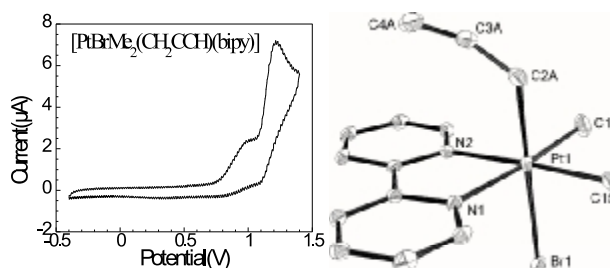
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**Background:** C-X bond activation and coordination of unsaturated substrates are key steps in many metal-mediated carbon-carbon bond forming reactions [1]. Oxidative additions were frequently used to synthesize organoplatinum (IV) complexes mainly by the reactions of alkyl halides or allyl halides with organoplatinum (II) complexes bearing a chelating N<sup>N</sup> ligand like 2,2'-bipyridine (bipy) or 1,10-phenanthroline [2]. There have been great interests in recent decades in the related oxidative addition reactions involving d<sup>8</sup> transition metal complexes with propargyl halides, XCH<sub>2</sub>C≡CH, [3]. Cyclic voltammetry (CV) as a very useful electroanalytical technique can provide important information about the oxidation state of an element in a compound as well as the compound's stability in the solvent system in which it is studied.

**Methods:** The structures of the resulting products were determined by using NMR, UV-Vis spectroscopy and X-ray crystallography techniques.

**Results:** We have investigated the changes in the CV pattern of the [PtMe<sub>2</sub>(bipy)] complex after oxidative addition reaction with different organohalides reagents such as allyl or propargyl halides.



**Conclusion:** Reaction of the organoplatinum(II) complex with propargyl halides gave a mixture containing the propargyl and the allene complexes.

**Keywords:** Organoplatinum complex; Oxidative addition; Organohalide; Cyclic voltammetry.

### References

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