

### Synthesis and structure of cot-Pt(II) complexes

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[(cot)PtX<sub>2</sub>](cot=(1,2,5,6-η)-1,3,5,7-cyclooctatetraene, X=Cl, I) was synthesized from a starting material, K<sub>2</sub>PtCl<sub>4</sub>. The reaction of alkyl or aryl Grignard reagents with [(cot)PtX<sub>2</sub>] yields a series of products which are the type of [(cot)PtR<sub>2</sub>] or [R<sub>2</sub>Pt(cot)PtR<sub>2</sub>](R=CH<sub>3</sub>, C<sub>6</sub>H<sub>5</sub>). An improved synthesis for [(cot)PtX<sub>2</sub>] complexes and the reaction with HI to give [(cot)PtRI] are described. The reaction of [(cot)PtR<sub>2</sub>](R=CH<sub>3</sub>) with K<sub>2</sub>PtCl<sub>4</sub> yields cyclooctatetraene-Platinum dimer, [Cl<sub>2</sub>Pt(cot)PtR<sub>2</sub>]. The method of synthesis and formation mechanism of this series of compounds are introduced, the spectral data are discussed, and structure of this compounds are proposed.