

Alkynyl-phosphine Au^I and Au^I-Cu^I complexes based on phosphine template: some features of the photophysical properties.

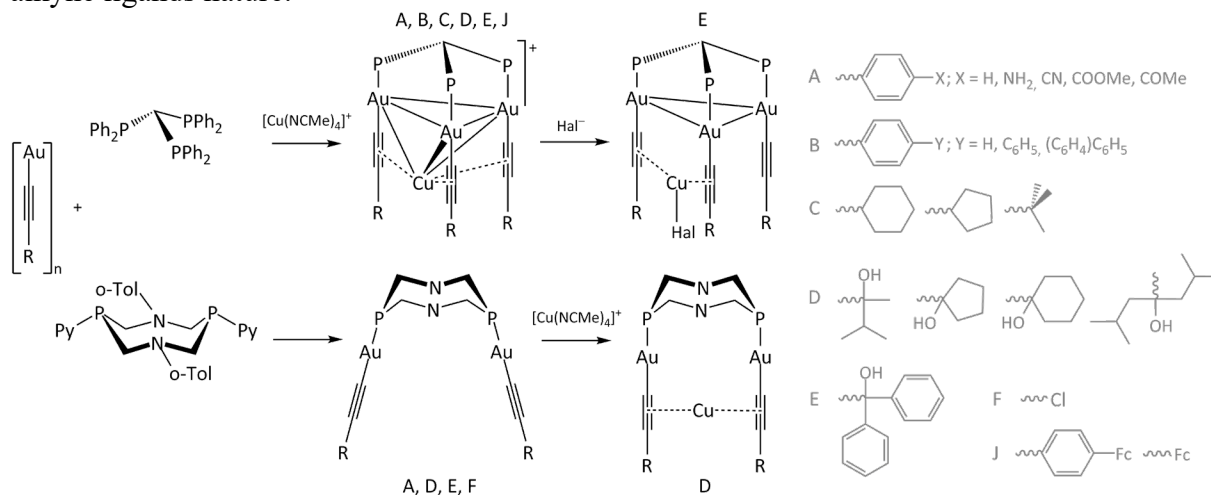
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Several series of the Au^I-Cu^I alkynyl-phosphine complexes stabilized by two different phosphine templates were obtained [1–4]. All complexes show luminescence in solution and/or in the solid state and their photophysical properties have been systematically investigated. It has been found that the luminescence of all complexes depends dramatically on the nature of the alkyne ligands.



The main point of the story is the fact that several complexes presented demonstrate distinct luminescence vapochromic response to volatile organic compounds (VOC). For the same cases a huge emission band shifting from deep red to green range of spectra has been found. The phenomenon observed can be possibly explained by solid state recrystallization of the complex after VOC molecule absorption. This hypothesis is supported by the single crystal X-Ray analysis where different packing and relative position of solvent and complex molecules were observed.

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