

Title: **Analysis of the supramolecular structures derived from weak Au(I)⋯Au(I) interactions.**

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SUMMARY

Gold compounds have been widely studied for the past 20 years, not only for their range of applications, but also for their interesting luminescent properties. This Final Degree Project aims to carry out an exhaustive revision of organometallic gold compounds, focused on their luminescence; due to the fact that it can be expressed in two ways, either fluorescence (transition allowed) or phosphorescence (forbidden transition), the purpose is to correlate aspects such as aurophilicity, the heavy atom effect, the phosphine auxiliary and the group attached to the alkynyl on the luminescence. Due to the great amount of papers in this regard, it has been decided to narrow down the search, including just articles from 2010. In addition, only alkynyls, with neutral phosphine ligand has been studied in this review, being one of the most studied compounds in this field. Moreover, with a view to organizing the information in a more understandable way, it has been decided to classify these compounds in seven different groups, according to the group attached to the alkynyl moiety.

Keywords: Supramolecular chemistry, Gold (I), Aurophilicity, Fluorescence, Phosphorescence.