

# Doping of molecular materials based on ferrocene and the study of their properties as organic semiconductors for application in optoelectronic devices

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**Resumen.** Este estudio se refiere al dopaje químico de materiales de ferroceno de la reacción con 2,6-dihidroxantraquinona y 2,6-diaminoantraquinona. Delgadas películas de los materiales moleculares dopados fueron preparadas por evaporación en vacío y la morfología y estructura de las películas fueron estudiadas usando SEM, EDS y espectroscopía IR. Se llevaron a cabo cálculos teóricos por medio del *software* Gaussian16 y todas las especies involucradas fueron geoméricamente optimizadas.

**Abstract.** The present study addressed the chemical doping of ferrocene materials from the reaction with 2,6-dihydroxyanthraquinone and 2,6-diaminoanthraquinone. Thin films of the doped molecular materials were prepared by vacuum

evaporation; the morphology and structure of films were studied using SEM, EDS, and IR spectroscopy. Theoretical calculations were carried out with the Gaussian 16 software and all the species involved were geometrically optimized.

### **Referencia bibliográfica.**

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