Universidad de Alcalá

CATALYSIS, DENDRIMERS AND NANOCHEMISTRY

Code
656

Dendrocat

RESEARCH AREA

Experimental Sciences

COORDINATOR

Ernesto de Jesús Alcañiz
Juan C. Flores Serrano

KEY WORDS

Organometallic chemistry, catalysis, Green chemistry, Sustainable chemistry, Nanochemistry

AIM

- Chemical industry
- Pharmaceutical industry

CONTACT

ernesto.dejesus@uah.es
Tlfn: 4603
Dpto. Química Orgánica y Química Inorgánica
Edificio de Farmacia
Campus Universitario, Ctra. Madrid-Barcelona km, 33, 600, 28805
Alcalá de Henares, Madrid

DENDROCAT
CATALYSIS, DENDRIMERS, AND NANOCHEMISTRY

ABOUT US

The aim of our research is to improve chemical sustainability by developing new molecular, supported, or nano-catalysts. We apply fundamental concepts of organometallic chemistry and homogeneous catalysis in areas such as aqueous-phase organic synthesis, recovery of catalysts or hydrogen storage

RESEARCH LINES

- Synthesis and reactivity in aqueous phase of hydrosoluble organometallic complexes (especially with N-heterocyclic carbene ligands)
- Reactivity and mechanistic studies aimed at understanding the role of water in processes involving organometallic complexes
- Development of catalytic processes for the formation of C-C and C-E bonds in aqueous media and biphasic recovery of catalysts
- Recovery of catalysts supported on nanomaterials (dendrimers, nanoparticles, carbon nanotubes, etc.)
- Synthesis and characterization of water-soluble metal nanoparticles stabilized by NHC ligands
- Preparation, properties and reactivity of open-shell palladium complexes
- Catalysts for the chemical storage of hydrogen

OFFERED SERVICES

- Technical services of synthesis and characterization of inorganic compounds
- Advice in the areas of expertise of the research group

MARKETABLE RESULTS