



**Spanish Ministry for Science and
Innovation (MCIN)**

Currículum Vitae

Name: EDUARDO RUIZ HITZKY

Date: April 2024

PERSONAL DATA

Family name: **RUIZ-HITZKY** First name: **EDUARDO**

D.N.I.: **1353088K**

Publications >300 papers; H index= 71, citations: > 18.000 (Google Scholar: [Eduardo Ruiz-Hitzky - Google Académico](#). April, 2024.
searched as: "Ruiz-Hitzky E* OR Ruizhitzky E*")



0. Affiliation and Title

Spanish Ministry for Science and Innovation (MCIN) <https://www.ciencia.gob.es/en/>
Spanish National Research Council (Consejo Superior de Investigaciones Científicas, CSIC)
https://www.google.com/search?q=CSIC+english&rlz=1C1YTUH_esES1018ES1018&oq=CSIC+english&aqs=chrome..69i57j33i160l3.6575j0j9&sourceid=chrome&ie=UTF-8

- Profesor de Investigación "Ad Honorem" (Emeritus Research Professor)

1. Professional Address

Nanostructured Hybrid, Biohybrid and Porous Materials Group

- <https://www.icmm.csic.es/en/investigacion-y-transferencia/research-groups>
- [Nanostructured Hybrid, Biohybrid and Porous Materials Group – Instituto de Ciencia de Materiales de Madrid, CSIC](#)

Materials Science Institute of Madrid; Cantoblanco E-28049, Madrid (Spain)

Tel. : +34 91 334 90 00

e-mail eduardo@icmm.csic.es

2. Education

- Graduate in Chemistry, Universidad Complutense, UCM, Madrid (1970)
- Dr.Sc. (Docteur en Sciences, Doctor of Science), University of Louvain, UCL, (Belgium) (1974)
- Ph.D. in Chemistry, Universidad Complutense, UCM, Madrid (1979).

3. Positions and Professional Activities

2017- **Profesor de Investigación Ad Honorem (Emeritus Research Professor)**, Materials Science Institute of Madrid, CSIC, Madrid.

1988-2017: **Profesor de Investigación (Senior Research Professor)**, Materials Science Institute of Madrid, CSIC, Madrid.

1985-1988: **Investigador Científico, (Senior Research Scientist)**, Materials Science Institute of Madrid, CSIC, Madrid.

1974-1985 : **Colaborador Científico (Research Associate)**, Soil Science Institute, CSIC, Madrid

1971-1974 : **Boursier-Chercheur (Fellow)**, University of Louvain, UCL (Belgium)

1969-1971: **Fellow Student**, Organic Chemistry Institute, **CSIC**, Madrid.

1966-1971: **Associated Professor** of Chemistry & Physics, **ICAI** Technical College, Madrid

4. Career at the CSIC

1987-1993 Head of the Department of *Adsorption & Interfacial Reactivity of Solids*, Materials Science Institute of Madrid (ICMM), CSIC.

1994-1997 Head of the Department of *Molecular Materials & Interfaces*, ICMM, CSIC.

1997-2008 Head of the Department of *Porous Materials & Intercalation Compounds*, ICMM, CSIC.

2008-2009 Head of the Department of *New Architectures in Chemistry of Materials*, ICMM-CSIC.

2010 -2017 Head of the *Nanostructured Hybrid, Biohybrid and Porous Materials* Group, ICMM-CSIC (<http://www.icmm.csic.es/phbhmq/>).

PARTICIPATION IN RESEARCH PROJECTS

• NATIONAL R& D Projects PROJECTS

1987/89 **Modificación de las propiedades físicas y de la reactividad de materiales con organización bidimensional mediante procesos de inserción topotáctica.** Leader: E. Ruiz-Hitzky (CICYT, Spain)

1991/93 **Movilidad y reactividad intracristalina de especies iónicas y moleculares insertadas en sólidos inorgánicos.** Leader: E. Ruiz-Hitzky (CICYT, Spain)

1988-1991. **"Membranas con transportadores macrocíclicos: membranas de soporte inorgánico".** CICYT, MAT88-0179-C02-02. Leader: Dr. Blanca Casal, ICMM, CSIC.

1989-1992. **"Membranas con transportadores macrocíclicos específicos".** Fundación Ramón Areces: IV Concurso Nacional de Ayudas para la Investigación Científica y Técnica; Programa de Nuevos Materiales. Leaders: Prof. Jaume Casabó Gispert, Universidad Autónoma de Barcelona & Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

1991-1994. **"Materiales para el control del transporte iónico basados en sistemas macrocíclicos soportados".** CICYT, MAT91-0952-C04-02. Leader: Dr. Blanca Casal Piga, Instituto de Ciencia de Materiales de Madrid, CSIC.

1994-1997. **"Compuestos de intercalación en sólidos inorgánicos: propiedades eléctricas y reactividad intracristalina",** CICYT, MAT94-0729. Leader: Prof. Eduardo Ruiz-Hitzky, Instituto de Ciencia de Materiales de Madrid, CSIC.

1994-1997. **"Síntesis, caracterización y aplicación de arcillas apilaradas",** CICYT, MAT94-1505-CE. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

1995-1998. **"The synthesis, characterisation and application of pillared clays (PILCs) produced in large quantities",** DIGICYT, UE95-0008. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

1997-2000. **"Materiales de intercalación de litio y de especies orgánicas basados en óxidos y sulfuros de metales de transición para dispositivos electroquímicos",** CICYT, MAT97-0326-C04-01. Leader : Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

1997-1999. **"Preparación de materiales inorgánicos y organo-inorgánicos de porosidad controlada: aplicación de la técnica CRTA y de otros métodos térmicos alternativos",** CICYT, MAT97-1271-C02-024-0729. Leader : Dr. Juan Carlos Galván, ICMM, CSIC.

1999-2002. **"Materiales funcionales nanoestructurados para dispositivos electroquímicos y sensores químicos",** CICYT, MAT99-1217. Leader: Dr. Juan Carlos Galván, ICMM, CSIC.

2000-2003. **"Materiales porosos derivados de sepiolita y otras arcillas: tratamientos con microondas".** CICYT, MAT2000-1451. Leader : Dr. Pilar Aranda, ICMM, CSIC

2000-2003. **"Materiales inorgánicos y derivados organo-inorgánicos para baterías de ion litio y pilas de combustible".** CICYT, MAT2000-1585-C03-01. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC

2001-2004. **"Materiales organofílicos derivados de arcillas".** CICYT, MAT2000-0096-P4-02. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

2003-2004. **“Materiales híbridos nanoestructurados para el desarrollo de sensores inteligentes: aplicación al análisis clínico”**. Comunidad de Madrid, 07N/0070/2002. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

2003-2006. **“Síntesis de arcillas magnéticas en laboratorio: materiales geo-inspirados”**. CICYT, BTE2003-05757-C02-02. Leader: Dr. Pilar Aranda, ICMM, CSIC.

2003-2006. **“Materiales organo-inorgánicos nanoestructurados para dispositivos electroquímicos y otras aplicaciones avanzadas”**. CICYT, MAT2003-06003-C02-01. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

2003-2005. **“Desarrollo de materiales porosos con actividad desodorante para literas higiénicas autocontrolables basadas en sepiolitas y otras arcillas”**. Proyecto de Estímulo a la Transferencia de Resultados de Investigación (PETRI) PTR1995-0677-OP. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

2004-2005. **“Liposomas organo-inorgánicos: un nuevo concepto en la administración dirigida de sustancias bioactivas”**. Proyecto Intramural de Frontera (PIF) del CSIC ref. 200460F0321. Coordinator. Prof. Eduardo Ruiz-Hitzky, ICMM-CSIC.

2004-2006. **“Control inteligente de sensores para regular soluciones nutritivas recirculadas y minimizar los vertidos de agua y nutrientes”**. Junta de Andalucía, IFAPA-2002.000890. Leader: Prof. Jesús Cuartero, Estación Experimental La Mayora, CSIC

2005-2007. **“Nuevos microsensores basados en nanoestructuras biomiméticas para el diagnóstico de alergias”**. Proyecto Intramural de Frontera (PIF) del CSIC ref. 200560F0142. Coordinator: Dr. César Fernández Sánchez, CNM-IMB, CSIC.

2005-2009. **“Materiales nanoestructurados de base polimérica: fenómenos de interfase en relación con sus propiedades y aplicaciones avanzadas”**. Proyectos del Programa de Actividades de I+D entre Grupos de la Comunidad de Madrid 2005, S-0505/MAT/0027. Coordinator: Prof. Juan Baselga Llidó, Universidad Carlos III de Madrid.

2006-2009. **“Materiales híbridos y bio-híbridos nanoestructurados basados en sólidos porosos y polímeros funcionales para sensores y otras aplicaciones avanzadas”** CICYT, MAT2006-03356. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

2008-2010. **“Nuevos sistemas bio-híbridos aplicables a vacunas y a biosensores virales”**. Proyecto Intramural de Frontera (PIF) del CSIC ref. PIF08-018-2. Coordinator. Prof. Eduardo Ruiz-Hitzky, ICMM-CSIC.

2009-2010. **“Desarrollo de electrodos iono-selectivos basados en bio-nanocomposites para la detección de contaminantes en aguas”**. Proyecto AECl de Ayudas para Programas de Cooperación Interuniversitaria e Investigación Científica, A/016336/08. Coordinator: Dr. Pilar Aranda, ICMM-CSIC.

2010-2012. **“Nuevos materiales híbridos y bio-híbridos nanoestructurados basados en sólidos porosos de naturaleza silícica para aplicaciones avanzadas”**. CICYT, MAT2009-09960. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

2013-2016. **“Materiales porosos, híbridos y bio-híbridos nanoestructurados basados en silicatos (NANOSIL)”**. CICYT, MAT2012-31759. Leader: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

2016-2020. **“New hybrid architectures from controlled cross-assembling of nanomaterials (X-ASSEMBLY)”**. MINECO Programa Estatal de I+D+i Orientada a los Retos de la Sociedad, Ref. MAT2015-71117-R. Project Leader: Dr. Pilar Aranda, ICMM, CSIC.

2016-2018. “**Proceso industrial avanzado para la generación de nuevos productos de elevadas prestaciones basados en sepiolita para contribuir al desarrollo sostenible desde el sector industrial (PROSEO)**”. MINECO Programa Retos-Colaboración 2016, Ref. RTC-2016-5065-5. Coordinadora: Belén Marcos (SEPIOL SA); Project Leader at ICMM, CSIC: Dr. Pilar Aranda.

2020-2023. “**Materiales funcionales a partir de recursos naturales para soluciones sostenibles en energía, medioambiente y salud (SustMat)**”. Agencia Estatal Investigación, Proyectos I+D+i Retos Investigación, Ref. PID2019-105479RB-I00. IPs: Dr. Pilar Aranda & Dr. Margarita Darder, ICMM-CSIC.

2022-2024. “**Hacia una producción de energía sostenible: multirecolectores célula solar orgánica/nanogenerador basados en materiales naturales (ENERPRO)**”. Agencia Estatal Investigación, Proyectos de Transición Ecológica y Transición Digital, Ref. TED2021-131223B-I00. IPs: Dr. Eva M. García-Frutos & Dr. Javier Pérez-Carvajal, ICMM-CSIC.

• INTERNATIONAL PROJECTS

1986-1987 **Selective organic synthesis on sepiolite and lamellar silicic acids.** Leaders: G. BRAM and E. RUIZ-HITZKY (NATO)

1993- 95 Ecologically oriented formulations for stabilizing herbicides EPTIC and trfluralin" Leaders: J.M.SERRATOSA and E.RUIZ-HITZKY (CE-Israel Program)

1993-1995. “**Concerted european action on pillared layered structures**”, UE/BRITE-EURAM, CEA-PLS European Programme Coordinator: Prof. Henri Van Damme, CRMD, CNRS, Francia. Leader in Spain: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

1994-1997 **Non-linear optics of mineral dye composites** G. SCHULZ-EKKLOF (Coordinator) and E. RUIZ-HITZKY (Leader of the Spanish Team) EC Program "Human Capital & Mobility"

1993-1996 **Development of stabilised ecologically acceptable pesticides.** Leaders: J.M. SERRATOSA and E. RUIZ-HITZKY, PEACE CAMPUS Program (EU)

1994-1997. “**The synthesis, characterization and application of pillared clays (PILCs) produced in large quantities**”, UE, Contrato CE-BRITE/EURAM, BRE2-CT94-0629. Coordinator: Prof. W. Jones, University of Cambridge; Leader of the Spanish Group: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC.

1996-1999 **Compuestos de intercalación en calcogenuros laminares de metales de transición MPX3:preparación y propiedades físicas** Leaders: V. MANRIQUEZ and E. RUIZ-HITZKY (FONDECYT, Chile)

2012-2016 “**Design and control of hybrid organic-inorganic interfaces: a further step towards advanced functional materials**”, EUFP7-COST. Coordinator: Dr. M.H. Delville CNRS-Université Bordeaux (France); Leader at the ICMM-CSIC: Dr. P. Aranda

2013-2016. “**FLAGSHIP on GRAPHENE**”, EC ref. CNECT-ICT-604391. Spanish Representative and Coordinator of Activities at the ICMM-CSIC: Dr. Mar García-Hernández.

2016-2020. “**Multi-Functional Nano-Carbon Composite Materials Network (MultiComp)**”, ref.: CA15107. Coordinator: Dr. Sharali Malik, Karlsruhe Institute of Technology (Germany). Leader at the ICMM-CSIC: E. Ruiz-Hitzky

2019-2022. “**Objective-L2**”, European Central Bank, ECB-CSIC Research Contract with the participation of the Bank of Spain.”. Coordinator & Leader: E. Ruiz-Hitzky.

2023-2025 “**Objective-TiO2**”, European Central Bank, ECB-CSIC Research Contract with the participation of the Bank of Spain.”. Coordinator & Leader: E. Ruiz-Hitzky.

• **BILATERAL & COLLABORATIVE INTERNATIONAL PROJECTS**

1995-1997 “**Materiales para el control de la selectividad y transporte iónico basados en la inserción de Litio en matrices organo-inorgánicas**”. Leader: E. Ruiz-Hitzky, CSIC-Universidad de Chile), Chile

1995-1996. “**Materiales para el control de la selectividad y transporte iónico basados en la inserción de litio en matrices organo-inorgánicas**”. CSIC-Universidad de Chile-CONICYT-Fundación Andes. Leaders: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC & Prof. Guillermo González Moraga, Universidad de Chile, Chile

1997-1998. “**Materiales nanocompuestos basados en polímeros electroactivos y sólidos inorgánicos: dispositivos electroquímicos y membranas**”. CSIC-Universidad de Chile. Leaders: Dr. Juan Carlos Galván, ICMM, CSIC & Dr. Nicolás Yutronic, Universidad de Chile, Chile

2000-2001. “**Nanocompuestos basados en polímeros conductores y materiales HDLs (hidróxidos dobles laminares)**”. CSIC-CNRS 2000FR0024. Leaders: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC & Prof. Jean-Pierre Besse, CNRS-Université Blaise-Pascal, France

2001-2002. “**Síntesis y caracterización de materiales nanoestructurados basados en polímeros conductores intercalados en matrices inorgánicas**”. CSIC-CITMA 2001CU0007. Leaders: Prof. Eduardo Ruiz-Hitzky, ICMM, CSIC & Dr. Eduardo Pérez-Cappe, IMRE-Universidad de La Habana, Cuba

2005-2006. “**Nanostructured adsorbents and photocatalysts for the environmental technology**”. CSIC-Hungarian Academy of Sciences 2004HU0021. Leaders: Prof. Eduardo Ruiz-Hitzky, ICMM-CSIC & Prof. Imre Dékány, Nanostructured Materials Research Group of the Hungarian Academy of Sciences, Hungary

2006-2007. “**Bionanocomposite materials based on glasses and other inorganic porous solids**” CSIC-CNPq de Brasil 2005BR0023. Leaders: Prof. Eduardo Ruiz-Hitzky, ICMM-CSIC & Prof. Oswaldo Luis Alves, Universidade Estadual de Campinas, Brazil.

2007-2008. “**Bio-nanocomposites como sustrato para procesos de biomineralización y desarrollo de otros materiales nanoestructurados**”. CSIC-Universidad de Chile, 2006CL0036. Leaders: Dr. Pilar Aranda, ICMM-CSIC & Dr. Mehrdad Yazdani-Pedram, Facultad de Veterinaria y Ciencias Animales, Chile

2008-2009. “**Desarrollo de electrodos selectivos de iones basados en bio-nanocomposites de arcillas funcionalizadas (ESIBICAF)**”. CSIC-Marruecos bilateral project, 2007MA0026. Leaders: Dr. Pilar Aranda, ICMM-CSIC & Dr. Benaissa Rhouta, LMCN Fac. des Sciences et Techniques, Université Cadi Ayyad Marrakech, Morocco.

2009-2010. “**Development of new bionanocomposites with improving properties**”. CSIC-RFBR Russia Federation bilateral project, 1008RU0023. Leaders: Prof. Eduardo Ruiz-Hitzky, ICMM-CSIC & Prof. Yury Shchipunov, Russian Academy of Sciences-Far East Department, Russia

2009-2010. “**Desarrollo de electrodos iónico-selectivos basados en bio-nanocomposites para la detección de contaminantes en aguas**”. AECI Project (Ministry of Foreign Office, Spain, Cooperación Interuniversitaria e

Investigacion Científica), A/016336/08. Coordinator Dr. Pilar Aranda, ICMM-CSIC. Leader in Morocco Dr. Benaissa Rhouta, LMCN Fac. des Sciences et Techniques, Université Cadi Ayyad Marrakech, Morocco

2011-2012. "**Green nanocomposites from Spanish and Moroccan natural resources**". CSIC-Académie Hassan II, 2010MA0003. Leaders: Prof. Eduardo Ruiz-Hitzky, ICMM-CSIC and Dr. Mostapha Bousmina, i-NANOTEC, Morocco

2015-2016. "**Clay-based nanoarchitectures as photocatalysts for controlled degradation of pharmaceutical drugs as pollutants in urban water**". CSIC i-COOP2014 Programme, Ref. COOPA20077. Coordinator: Prof. Eduardo Ruiz-Hitzky. Leader in Tunisia: Prof. Abdesslem Ben Amara (University of Carthage), Tunisia

• **FINANCIAL SUPPORT FOR EQUIPMENT AND SPECIAL PROJECTS**

2006. **Acción complementaria para la "Adquisición de un equipo de microscopía SFE-SEM VP"**, Spanish Ministry of Science and Innovation. Leader: Prof. Eduardo Ruiz Hitzky, Instituto de Ciencia de Materiales de Madrid, CSIC. MAT2006-26585-E.

2002. **Accion especial para la celebración en España del Congreso Internacional de la Royal Society of Chemistry (UK) "Materials Discussion 5: Porous Materials and Molecular Intercalation"**, Spanish Ministry of Science and Technology. Leader: Prof. Eduardo Ruiz Hitzky, Instituto de Ciencia de Materiales de Madrid, CSIC. MAT2001-5342-E

2009. **Acción especial para la organización del Congreso Internacional "TRILATERAL MEETING ON CLAY MINERALS (2010TMC)"**, Spanish Ministry of Science and Innovation (Acción Complementaria Modalidad A),. Promotor and General Chair: Prof. Eduardo Ruiz-Hitzky, Instituto de Ciencia de Marateriales de Madrid, CSIC. CGL2009-07650-E/BTE.

• **PUBLICATIONS**

1. J.BARRIOS-NEIRA, L.RODRIQUE, E.RUIZ-HITZKY, "Mise en évidence de groupements organiques insaturés greffés sur la sepiolite", J. Microsc. Spec. Electron **20**, 295-298 (1974)
2. E.RUIZ-HITZKY, "Réaction du methylvinylidichlorosilane avec le dimethylsulfoxide", An. Quim. **71**, 838-839 (1975)
3. E.RUIZ-HITZKY, J.J.FRIPIAT, "Organomineral derivatives obtained by reaction of organochlorosilanes with the surface of silicates in organic solvents", Clays Clay Min. **24**, 25-30 (1976)
4. E.RUIZ-HITZKY, J.J.FRIPIAT, "Reactivity of the surface of sepiolite with organochlorosilanes" in Proc. 5th Internat. Clay Conference, Méjico 1975, S.W. Bailey ed., Applied Publishing, Illinois, 1976, Vol I., pp. 412-413.
5. E.RUIZ-HITZKY, J.J.FRIPIAT, "Dérivés organiques des silicates III. Le dérivé vinylique de la sépiolite" Bull. Soc. Chim. (9-10), 1341-1348 (1976)
6. B. CASAL, E. RUIZ-HITZKY, "Reaction of epoxides on mineral surfaces. Organic derivatives of sepiolite" in Proc. III European Clay Conference Oslo 1977, I.Th. Rosenqvist, ed., Nordic Society for Clay Research, Oslo, 1977, Vol. I., pp. 35-37.

7. E.RUIZ-HITZKY, A.VAN MEERBEEK, "Mechanism of the grafting of organosilanes on mineral surfaces. I. Nature and role of the hydrolysis products of the methylvinylchlorosilane in the grafting of silicates in hydrochloric acid and isopropanol", **Coll. & Polym. Sci.** **256**, 135-139 (1978)
8. E.RUIZ-HITZKY, B.CASAL, "Crown ethers intercalations with phyllosilicates", **Nature** **276**, 596-597 (1978)
9. M.N.FERNANDEZ HERNANDEZ, E.RUIZ-HITZKY, "Interaccion de isocianatos con sepiolita", **Clay Min.** **14**, 295-305 (1979)
10. A.VAN MEERBEEK, E.RUIZ-HITZKY, "Mechanism of the grafting of organosilanes on mineral surfaces. II. Secondary reactions during the grafting of alkenylchlorosilanes", **Coll. Polym. Sci.** **257**, 178-181 (1979)
11. E.RUIZ-HITZKY, J.M.ROJO, "Intracrystalline grafting on layer silicic acids", **Nature** **287**, 28-30 (1980)
12. J.M. ROJO, E.RUIZ-HITZKY, J.SANZ, J.M.SERRATOSA, "Characterization of surface Si-OH groups in layer silicic acids by IR and NMR spectroscopies", **Rev. Chim. Miner.** **20**, 807-816 (1983)
13. B.CASAL, E.RUIZ-HITZKY, J.M.SERRATOSA, J.J.FRIPIAT, "Vibrational spectra of ammonium ions in crown ether-NH₄⁺-montmorillonite complexes", **J.Chem.Soc. Faraday Trans.I**, **80**, 2225-2232 (1984).
14. J.M.ROJO, E.RUIZ-HITZKY, "Interaction des amides N-substituées avec des acides siliciques lamellaires", **J. Chim. Phys.** **81**, 625-628 (1984)
15. J.K.DE WAELE, F.C.ADAMS, B.CASAL, E.RUIZ-HITZKY, "Laser microprobe mass analysis (LAMMA) of natural and organochlorosilane grafted sepiolite surfaces", **Mikrochim. Acta III**, 117-128 (1984)
16. B.CASAL, RUIZ-HITZKY, "Estudio por espectroscopia IR de la interaccion de epoxidos con grupos silanoles en superficies silicicas", **An. Quím.** **80**, 315-320 (1984)
17. E.RUIZ-HITZKY, J.M.ROJO, G. LAGALY, "Mechanism of the grafting of organosilanes on mineral surfaces. III. Interlamellar grafting of layer silicic acids", **Coll. Polym. Sci.** **263**, 1025-1030 (1985)
18. B.CASAL, E.RUIZ-HITZKY, "Estudio por espectroscopia IR y UV de la adsorción interlamellar de polietéres macrocíclicos en filosilicatos", **Opt. Pura Apl.** **18**, 49-58 (1985)
19. E.RUIZ-HITZKY, B.CASAL, "Epoxide rearrangements on silicoalumina surfaces", **J. Catalysis** **92**, 291-295 (1985)
20. M.MARTINEZ LARA, A.JIMENEZ LOPEZ, L.MORENO REAL, S.BRUQUE, B.CASAL, E.RUIZ-HITZKY, "Redox intercalation of alkylammonium ions into VOAO₄.nH₂O (A=P,As)", **Mat. Res. Bull.**, **5(20)**, 549-555 (1985)
21. B.CASAL, F.BERGAYA, D.CHALLAL, J.FRIPIAT, E.RUIZ-HITZKY, H.VAN DAMME, "Photo-oxidation of water mediated by a clay-anchored Os-Catalyst", **J. Mol. Catalysis**, **33**, 83-86 (1985)
22. B.CASAL, E.RUIZ-HITZKY, "Interlayer adsorption of macrocyclic compounds (crown ethers and cryptands) in 2:1 phyllosilicates I. Isotherms and kinetics", **Clay Min.** **21**, 1-7 (1986)
23. E.RUIZ-HITZKY, B.CASAL, "Interlayer adsorption of ammonia and pyridine in V₂O₅ xerogel", **J. Chem. Soc. Faraday Trans.I** **82**, 1597-1604 (1986)

24. E.RUIZ-HITZKY, B.CASAL, "Intracrystalline complexation by crown ethers and cryptands in clay minerals, in **Chemical Reactions in Organic and Inorganic Constrained Systems**, R. Setton, ed., Reydell publish. Co., Dordrecht, (1986), pp.179-189.
25. J.M.ROJO, J.SANZ, E.RUIZ-HITZKY, J.M.SERRATOSA, "²⁹Si MAS-NMR spectra of lamellar silicic acid H-magadiite and its trimethylsilyl derivative", **Z.Anorg. Allgm. Chemie** **540/541**, 227-233 (1986)
26. J.K.DE WAELE, H. WOUTERS, L.VAN VAECK, F.C.ADAMS, E.RUIZ-HITZKY, Role of the surface availability on the detection of organic and elemental targets by the LAMMA-500 instrument" in **Proc. 3rd Internat.LAMMA workshop 1986**, Leybold-Heraeus, Antwerpen, 1986, pp.63-70..
27. J.K.DE WAELE, H. WOUTERS, L.VAN VAECK, F.C.ADAMS, E.RUIZ-HITZKY, "Surface characterization of pure and chemically modified minerals by laser microprobe mass spectrometry", **Anal. Chim. Acta** **195**, 331-336 (1987)
28. A.ALVAREZ, J.SANTAREN, R.PEREZ CASTELL, B.CASAL, E. RUIZ-HITZKY, P.LEVITZ, J.J.FRIPIAT, "Surfactants adsorption and rheological behaviour of surface modified sepiolite" **Proc. Internat. Clay Conference, Denver 1985**, L.G. Schultz, H. van Olphen and F.A. Mumpton, eds., The Clay Minerals Society, Bloomington, 1987, pp. 370-374.
29. S.BRUQUE, M.MARTINEZ-LARA, L.MORENO REAL, A.JIMENEZ LOPEZ, B.CASAL, E.RUIZ-HITZKY, J.SANZ, "Characterization of the interlayer water in the niobyl phosphate hydrates by IR and NMR spectroscopies", **Inorg. Chem.** **26**, 847-850 (1987)
30. E.RUIZ-HITZKY, "Génie cristalline dans les solides organo-minéraux", **Mol. Cryst. Liq. Cryst. Inc. Nonlin. Opt.**, **161**, 433-452 (1988)
31. B.CASAL, E.RUIZ-HITZKY, L.VAN VAECK, F.C.ADAMS, "Laser Microprobe Mass Analysis (LAMMA) of intracrystalline crown-ether and cryptand complexes in layer silicates", **J. Incl. Phenom.** **6**, 107-118 (1988)
32. E.GUTIERREZ, E.RUIZ-HITZKY, "Intracrystalline pinacol rearrangement in layer silicates", **Mol. Cryst. Liq. Cryst. Inc. Nonlin. Opt.**, **161**, 453-458 (1988).
33. A.J.AZNAR, E.RUIZ-HITZKY, "Arylsulphonic resins based in organic/inorganic macromolecular systems", **Mol. Cryst. Liq. Cryst. Inc. Nonlin. Opt.**, **161**, 459-469 (1988).
34. E.GUTIERREZ, A.J.AZNAR, E.RUIZ-HITZKY, "Selectivity of the catalytic rearrangement of 1,2-glycols on acidic solids", in **Studies in surface science and catalysis. Heterogeneous Catalysts and Fine Chemicals**, M.Guisnet *et al.*, eds., Elsevier Sci.Publ., Amsterdam, 1988, pp. 211-219.
35. J.M.ROJO, E.RUIZ-HITZKY, J.SANZ, "Proton-sodium exchange in magadiite. Spectroscopic study (NMR, IR) of the evolution of interlayer OH groups", **Inorg. Chem.** **27**, 2785-2790 (1988).
36. J.M.AMARILLA, B.CASAL, RUIZ-HITZKY, "Synthesis and characterization of the new mixed oxide NbVO₅", **Mat. Letters** **8**, 132-136 (1989)
37. E. GUTIERREZ, A. LOUPY, G. BRAM, E. RUIZ-HITZKY, "Inorganic solids in *dry media*: an efficient way for developing microwave irradiation activated organic reactions", **Tetrahedron Lett.**, **30**, 945-948 (1989).
38. B. CASAL, E.RUIZ-HITZKY, M. CRESPIAN, D. TINET, J.C. GALVAN, "Intercalation mechanism of nitrogenated bases into V₂O₅ xerogel", **J. Chem. Soc. Faraday Trans.I** **85**, 4167-4177 (1989)

39. J. SANTAREN, J.SANZ, E. RUIZ-HITZKY, "Structural fluorine in sepiolite", **Clays Clay Min.** **38**, 63-68 (1990)
40. G. BRAM, A. LOUPY, M. MAJDOUB, E. GUTIERREZ, E. RUIZ-HITZKY, "Alkylation of potassium acetate in *dry media*. Thermal activation in commercial microwaves ovens", **Tetrahedron** **46**, 5167-5176 (1990)
41. E. GUTIERREZ, E. RUIZ-HITZKY Molecular rearrangement reactions on pillared clays, in **Pillared Layered Structures: current trends and applications**, I.V. Mitchell, ed., Elsevier Applied Science, London 1990, pp.199-208
42. E. RUIZ-HITZKY, P. ARANDA, "Polymer-salt intercalation complexes in layer silicates", **Adv. Mater.** **2**, 545-547 (1990)
43. R. RAMIREZ, B. CASAL, L. UTRERA, E. RUIZ-HITZKY, "Oxygen reactivity in vanadium pentoxide: electronic structure and infrared spectroscopy studies", **J. Phys. Chem.** **27**, 8960-8965 (1990)
44. J. DAVIS, D.TINET, J.J.FRIPIAT, J.M.AMARILLA, B.CASAL, E.RUIZ-HITZKY, "⁵¹V and ⁹³Nb high resolution NMR study of NbVO₅", **J.Mater.Res.** **6**, 393-400 (1991)
45. E.GUTIERREZ, A.J.AZNAR, E.RUIZ-HITZKY, "Beckmann rearrangement reactions on acidic solids" in **Heterogeneous Catalysis and Fine Chemicals II**, M.Guisnet et al., eds., Elsevier Sci. Publ., Amsterdam, 1991, pp. 539-547.
46. P.ARANDA, J.C.GALVAN, B.CASAL, E.RUIZ-HITZKY, "Characterization of clay-polyoxyethylene based membranes using AC impedance spectroscopy", **Key Engineering Materials** **61&62**, 469-472 (1991)
47. A.J.AZNAR, J.SANZ, E.RUIZ-HITZKY, "Mechanism of the grafting of organosilanes on mineral surfaces. IV. Phenyl derivatives of sepiolite and poly(organosiloxanes)", **Colloid & Polym. Sci.** **270**, 165 (1992)
48. P.HERNAN, C.DEL PINO, E.RUIZ-HITZKY, "Rhodium complexes with nitrogen-donor ligands anchored on silicic supports. 1. Synthesis and Characterization", **Chem. Mater.** **4**, 49 (1992)
49. A.J.AZNAR, B.CASAL, E.RUIZ-HITZKY, I.LOPEZ-ARBELOA, F.LOPEZ-ARBELOA, J.SANTARÉN, A.ALVAREZ, "Adsorption of methylene blue on sepiolite gels: spectroscopic and rheological studies", **Clay Miner.** **27**, 101 (1992)
50. J.M.AMARILLA, B.CASAL, J.C.GALVAN, E.RUIZ-HITZKY, "Lithium-MVO₅(M=Nb,Ta) bronzes", **Chem. Mater.** **4**, 62 (1992)
51. P. ARANDA, J.C.GALVAN, B.CASAL, E.RUIZ-HITZKY, "Ion-conductivity in layer silicates controlled by intercalation of macrocyclic and polymeric oxoethylene compounds", **Electrochim. Acta**, **37**, 1573 (1992)
52. E. RUIZ-HITZKY, P. ARANDA, B. CASA, "New polyoxyethylene intercalation materials in vanadium oxide xerogel", **J. Mater. Chem.** **2**, 581 (1992)
53. J.M.AMARILLA, B.CASAL, J.C.GALVAN, E.RUIZ-HITZKY, "Lithium intercalation in Ta_xNb_{1-x}VO₅ mixed oxides", **Mater. Sci. Forum** **91-93**, 153 (1992)
54. R.RAMIREZ, B.CASAL, L.UTRERA, E.RUIZ-HITZKY, "Oxidation mechanism in intercalated vanadium pentoxide", **Mater. Sci. Forum** **91-93**, 609 (1992)
55. J.M.AMARILLA, B.CASAL, E.RUIZ-HITZKY, "Ta_xNb_{1-x}VO₅ (0<x<1) Ternary oxides: synthesis by sol-gel and structural characterization", **J.Solid State Chem.** **99**, 258 (1992)

56. J.C. GALVAN, P. ARANDA, J.M. AMARILLA, B. CASAL, E. RUIZ-HITZKY, "Organosilicic membranes doped with crown-ethers", **J. Mater. Chem.** **3**, 687-688 (1993)
57. P. ARANDA, E. RUIZ-HITZKY, "Poly(ethylene oxide)-silicate intercalation materials", **Chem. Mater.** **4**, 1397 (1992)
58. P. ARANDA, B. CASAL, J.C. GALVAN, E. RUIZ-HITZKY, "Electrical properties of oxyethylene intercalated compounds" in **Chemical Physics of Intercalation II**, P. Bernier et al., eds., Plenum Press, Nueva York, 1993, pp. 397-400.
59. E. RUIZ-HITZKY, "Conducting polymers intercalated in layered solids", **Advanced Mater.** **5**, 334-340 (1993)
60. E. RUIZ-HITZKY, R. JIMENEZ, B. CASAL, V. MANRIQUEZ, A. SANTA ANA, G. GONZALEZ, "PEO intercalation in layered chalcogenides", **Advanced Mater.** **5**, 738- 741 (1993)
61. E. VILA, E. RUIZ-HITZKY, "Equilibrio químico y reacciones", Capítulo 5, **Introducción a la Ciencia de Materiales. Técnicas de preparación y caracterización**, J.M. Albella et al., eds., Colección de Textos Universitarios núm. 20, CSIC, Madrid, 1993, pp. 157-199.
62. E. RUIZ-HITZKY, "Fenómenos de superficie" ibidem, Capítulo 6, pp. 201-230.
63. P. MILLAN, A. AZNAR, L. CUADRA, E. RUIZ-HITZKY, R. ROJAS, "Absorción y emisión atómica. Cromatografía. Análisis térmico" ibidem, Capítulo 15, pp. 591-663.
64. B. CASAL, P. ARANDA, J. SANZ, E. RUIZ-HITZKY, "Interlayer adsorption of macrocyclic compounds (crown-ethers and cryptands) in 2:1 phyllosilicates. II. Structural features", **Clay Min.** **29**, 191 (1994)
65. P. ARANDA, B. CASAL, J.J. FRIPIAT, E. RUIZ-HITZKY, "Intercalation of macrocyclic compounds (crown-ethers and cryptands) into 2:1 phyllosilicates. Stability and calorimetric study", **Langmuir** **10**, 1207 (1994)
66. P. ARANDA, B. CASAL, J.C. GALVAN, E. RUIZ-HITZKY, "Electrochemical characterization of composite membranes based on crown-ethers intercalated into montmorillonite", **Coll.& Polymer Science** **272**, 712 (1994)
67. P. ARANDA, E. RUIZ-HITZKY, "New polyelectrolyte materials based on smectite polyoxyethylene intercalation compounds", **Acta Polymerica** **45**, 59 (1994)
68. E. RUIZ-HITZKY, P. ARANDA, B. CASAL, J.C. GALVAN, "Nanocomposite materials with controlled ion-mobility", **Adv. Mater.**, **7**, 180-184 (1995)
69. P. ARANDA, A. JIMENEZ-MORALES, J.C. GALVAN, B. CASAL, E. RUIZ-HITZKY, "Composite membranes based on polysiloxasane/macrocyclic compounds: preparation, characterisation and electrochemical behaviour", **J. Mater. Chem.**, **5** 817-825 (1995)
70. J. ISASI, M.L. LOPEZ, M.L. VEIGA, E. RUIZ-HITZKY, C. PICO, "Structural characterization and electrical properties of a novel defect pyrochlore", **J. Solid State Chem.** **116**, 290-295 (1995)
71. N. LARA, E. RUIZ-HITZKY, "Intercalation of oxyethylene compounds (crown-ethers and PEO) into molybdenum disulphide", **J. Braz. Chem. Soc.**, **7**, 193-197 (1996)

72. J.M. AMARILLA, B.CASAL, E.RUIZ-HITZKY, "MVO₅ (M=Nb, Ta) mixed oxides: sol-gel synthesis, structural and thermal characterization and electrochemical Li⁺ insertion", **J. Mater. Chem.**, **6** 1005-1011 (1996)
73. E. RUIZ-HITZKY, J.C. GALVAN, J. MERINO, B. CASAL, P. ARANDA, A. JIMENEZ MORALES, "Proton conductivity in Al-montmorillonite pillared clays", **Solid State Ionics** **85**, 313-317 (1996)
74. B. ACKERMANS, R.A. SCHOONHEYDT, E. RUIZ-HITZKY, "Intercalation of methylene blue into vanadium pentoxide gels", **J.Chem. Soc., Faraday Trans.** **92**, 4479-4484 (1996)
75. J. MERINO, B. CASAL, E. RUIZ-HITZKY, J.M. SERRATOSA, "Sepiolite based materials for ecological control of pesticides" in *Advances in Clay Minerals* (M. Ortega-Huertas, A. López-Galindo, I. Palomo-Delgado, Eds.), pp.264-5, Sociedad Española de Arcillas, Granada 1996
76. B. CASAL, J. MERINO, E. RUIZ-HITZKY, E. GUTIERREZ, A. ALVAREZ, "Characterization, pillaring and catalytic properties of a saponite from Vicálvaro, Madrid, Spain", **Clay Miner.** **32**, 39-52 (1997)
77. E. RUIZ-HITZKY, P. ARANDA, "Confinement of conductive polymers into inorganic solids", **Anales de Química, International Edition** **93**, 197-212 (1997)
78. G. RYTWO, S. NIR, L. MARGULIES, B. CASAL, J. MERINO, E. RUIZ-HITZKY, J.M. SERRATOSA, "Adsorption of monovalent organic cations on sepiolite: experimental results and model calculations", **Clays and Clay Minerals**, **46** 340-348 (1998)
79. E. RUIZ-HITZKY, "Las arcillas: de la materia prima al material funcional avanzado", Sociedad Española de Arcillas: Conferencias, Editores I. Palomo, M. Ortega Huertas, A. López Galindo, pag. 81-99, Imprenta Copisteria La Gioconda, Granada 1998
80. J.C. GALVÁN, A. JIMÉNEZ-MORALES, R. JIMÉNEZ, J. MERINO, A. VILLANUEVA, M. CRESPI, P. ARANDA, E. RUIZ-HITZKY, "Application of the electrochemical impedance technique to study of pillared clays", **Chem. Mater.** **10** 3379-3385 (1998)
81. P. ARANDA, J.C. GALVÁN, E. RUIZ-HITZKY, "Microwave assisted blending-intercalation of ion-conductor polymers into layered silicates", Organic/Inorganic Hybrid Materials, **Hybrid Materials, Vol. 519 MRS Symposium Proceedings**, R.M. Laine, C. Sanchez, C.J. Brinker, E. Giannelis eds., pp. 375-380, Warrendale (Pennsylvania) 1998
82. JIMÉNEZ-MORALES, J.C. GALVÁN, P. ARANDA, E. RUIZ-HITZKY, "Hybrid organic-inorganic electrode-membranes based on organo-polysiloxane/macrocyclic systems", Organic/Inorganic Hybrid Materials, **Hybrid Materials, Vol. 519 MRS Symposium Proceedings**, R.M. Laine, C. Sanchez, C.J. Brinker, E. Giannelis eds., pp. 211-216, Warrendale (Pennsylvania) 1998
83. J.F. WENG, J. MERINO, P. ARANDA, J.C. GALVÁN, E. RUIZ-HITZKY, "Reactive nanocomposites based on pillared clays", **J. Mater. Chem.** **9** 161-168 (1999)
84. A.M. DE ANDRES, J. MERINO, J.C. GALVAN, E. RUIZ-HITZKY, "Synthesis of Pillared Clays assisted by microwaves", **Mat. Res. Bull.** **34**, 641-651 (1999)
85. V. MANRÍQUEZ, A. GALDÁMEZ, A. VILLANUEVA, P. ARANDA, J.C. GALVÁN, E. RUIZ-HITZKY, "Insertion of In(III) and Ga(III) into MPS₃ (M = Mn, Cd) layered materials", **Mater. Res. Bull.** **34**, 673-683 (1999)

86. J.M. GARCIA, A. ASENJO, J. VELÁZQUEZ, D. GARCÍA, M. VÁZQUEZ, P. ARANDA, E. RUIZ-HITZKY, "Magnetic behavior of an array of cobalt nanowires", **J. Appl. Phys.** **34** 673-683 (1999)
87. P. ARANDA, E. RUIZ-HITZKY, "Poly(ethylene oxide)/NH₄⁺ nanocomposites", **Applied Clay Sci.** **15** 119-135 (1999)
88. L. LAMI, B. CASAL, L. CUADRA, J. MERINO, A. ALVAREZ, E. RUIZ-HITZKY, "Synthesis of 2,4-D ester herbicides using inorganic porous supports", **Green Chemistry** **1** 199-204 (1999)
89. F. DE JUAN, E. RUIZ-HITZKY, "Selective functionalisation of mesoporous silica", **Adv. Mater.** **12** 430-432 (2000)
90. A.L. GARCIA-PONCE, V. PREVOT, B. CASAL, E. RUIZ-HITZKY, "Intracrystalline reactivity of layered double hydroxides: carboxylate alkylations in dry media", **New J. Chem.** **24** 119-121 (2000)
91. E. RUIZ-HITZKY, P. ARANDA, E. PEREZ-CAPPE, A. VILLANUEVA, Y. MOSQUEDA-LAFFITA, "Habilidad como conductor iónico del sistema montmorillonita/PEO", **Rev. Cubana de Quím.** **12** 58-63 (2000)
92. J.M. GARCIA, A. ASENJO, M. VAZQUEZ, P. ARANDA, E. RUIZ-HITZKY "Characterization of cobalt nanowires by means of force microscope" **IEEE Trans. Mag.** **36**, 2981-2983 (2000)
93. E. RUIZ-HITZKY, P. ARANDA, "Electroactive Polymers Intercalated in Clays and Related Solids" in **Polymer-Clay Nanocomposites**, pp 19-46, T.J. Pinnavaia & G.W. Beall, Eds., John Wiley & Sons, West Sussex, 2000 (ISBN 0-471-63700-9).
94. E. RUIZ-HITZKY, "Molecular access to intracrystalline tunnels of sepiolite", **J. Mater. Chem.** **11**, 86-91 (2001)
95. V. PREVOT, B. CASAL, E. RUIZ-HITZKY, "Intracrystalline alkylation of benzoate ions into layered double hydroxides", **J. Mater. Chem.** **11**, 554-560 (2001)
96. M.L. ROJAS-CERVANTES, B. CASAL, P. ARANDA, M. SAVIRÓN, J.C. GALVÁN, E. RUIZ-HITZKY, "Hybrid materials based on vanadium pentoxide intercalation complexes", **Coll. Polym. Sci.** **279**, 990-1004 (2001)
97. E. RUIZ-HITZKY, B. CASAL, P. ARANDA, J.C. GALVÁN, "Organic-inorganic materials based on macrocyclic compounds", **Rev. Inorg. Chem.** **21** 125-159 (2001)
98. B. CASAL, J. MERINO, J.M. SERRATOSA, E. RUIZ-HITZKY, "Sepiolite based materials for the photo- and thermal-stabilization of pesticides", **Appl. Clay Sci.** **18**, 245-254 (2001)
99. M. HERNANDEZ VELEZ, O. SANCHEZ GARRIDO, R.M. BUENO BARBEYTO, I.M. SHMYTKO, M.M. GARCIA POZA, L. VAZQUEZ BURGOS, J.M. MARTINEZ-DUART, E. RUIZ-HITZKY, "Synthesis and characterization of porous silica thin films deposited from MCM-41 evaporation", **Thin Solid Films.** **402**, 111-116 (2002)
100. E. RUIZ-HITZKY, S. LETAIEF, V. PREVOT, "Novel organic-inorganic mesophases: self-templating synthesis and intratubular swelling", **Adv. Mater.** **14**, 439-443 (2002)
101. E. RUIZ-HITZKY, P. ARANDA, "Commentary on Materials Discussion 5: Porous Materials and Molecular Intercalation", **J. Mater. Chem.** **12** xi-xv (2002)

- 102.R. SALVADOR, B. CASAL, M. YATES, M. A. MARTÍN-LUENGO, E. RUIZ-HITZKY, "Microwave decomposition of a chlorinated pesticide (lindane) supported on modified sepiolites", **Appl. Clay Sci.** **22**, 103-113 (2002)
- 103.S. LETAIEF, B. CASAL, N. KBIR-ARIGUIB, M. TRABELSI-AYADI, E. RUIZ-HITZKY, "Fe-rich smectites from Gafsa (Tunisia): characterization and pillaring behaviour", **Clay Miner.** **37**, 517-529 (2002)
- 104.F. LEROUX, P. ARANDA, J.P. BESSE, E. RUIZ-HITZKY, "Adsorption of polymers into LDH materials", **Eur. J. Inorg. Chem.** 1242-1251 (2003)
- 105.E. RUIZ-HITZKY, "Functionalizing inorganic solids: towards organic-inorganic nanostructured materials for intelligent and bio-inspired systems", **The Chem. Record** **3**, 88-100 (2003)
- 106.G. RYTWO, E. RUIZ HITZKY, "Enthalpies of adsorption of methylene blue and crystal violet to montmorillonite", **J. Thermal Anal. Calorim.** **71**, 751-759 (2003)
- 107.S. LETAIEF, B. CASAL, P. ARANDA, M.A. MARTIN-LUENGO, E. RUIZ-HITZKY, "Fe-containing pillared clays as catalysts for phenol hydroxylation", **Appl. Clay Sci.** **22**, 263-277 (2003)
- 108.M. DARDER, M. COLILLA, E. RUIZ-HITZKY, "Biopolymer-clay nanocomposites based on chitosan intercalated in montmorillonite", **Chem. Mater.** **15**, 3774-3780 (2003)
- 109.P. ARANDA, Y. MOSQUEDA, E. PEREZ-CAPPE, E. RUIZ-HITZKY, "Electrical characterization of PEO-clay nanocomposites prepared by microwave irradiation", **J. Polym. Sci. Part B: Polym. Phys.** **41** 3249-3263 (2003)
- 110.S. LETAIEF, E. RUIZ-HITZKY, "Silica-clay nanocomposites", **Chem. Comm.** 2996-2997 (2003)
- 111.W. KUANG, G.A. FACEY, C. DETELLIER, B. CASAL, J.M. SERRATOSA, E. RUIZ-HITZKY, "Nanostructured hybrid materials formed by sequestration of pyridine molecules in the tunnels of sepiolite", **Chem. Mater.** **15** 4956-4967 (2003)
- 112.J.M. AMARILLA, M.L. PEREZ-REVENGA, B. CASAL, E. RUIZ-HITZKY, "Ta_yNb_{1-y}VO₅ (0<y<1) mixed oxides synthesized by sol-gel method: electrochemical Li⁺-insertion", **Catal. Today** **78** 571-579 (2003)
- 113.E. RUIZ-HITZKY, "Organic-Inorganic Materials: From Intercalations to Devices". Chapter 2. In: P. Gómez-Romero, C. Sánchez, eds. **Functional Hybrid Materials**; Wiley-VCH Verlag GmbH, ISBN: 3-527-30484-3, Weinheim, 2004.
- 114.R. FERNÁNDEZ-SAAVEDRA, P. ARANDA, E. RUIZ-HITZKY, "Templating synthesis of carbon nanofibers from polyacrylonitrile using sepiolite", **Adv. Funct. Mater.** **14** 77-82 (2004)
115. A VILLANUEVA, M.C. MORALES, E. RUIZ-HITZKY, "Microwave-assisted synthesis of MPS₃ (M=Mn, Cd) using a Dewar-ampoule device", **Eur. J. Inorg. Chem.** 949-952 (2004)
116. A VILLANUEVA, E. RUIZ-HITZKY, "Intercalation materials from azamacrocycles and layered sulphides: electrical and electrochemical behaviour", **J. Mater. Chem.** **14** 824-829 (2004)
- 117.E. RUIZ-HITZKY, P. ARANDA, M. SERRATOSA, "Organic/Polymeric Interactions with Clays" Capítulo 3 del libro **Handbook of Layered Materials**, pág. 91-154, S.M. Auerbach, K.A. Carrado & P.K. Dutta, Eds., Marcel Dekker, New York, 2004 (0-8247-5349-6).

- 118.S. LETÁĚEF, P. ARANDA, E. RUIZ-HITZKY, "Influence of iron in the formation of conductive polypyrrole-clay nanocomposites", **Appl. Clay Sci.** **28**, 183-198 (2005)
- 119.M. DARDER, M. COLILLA, E. RUIZ-HITZKY, "Chitosan-clay nanocomposites: application as electrochemical sensors", **Appl. Clay Sci.** **28**, 199-208 (2005)
- 120.M. COLILLA, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Mercaptopyridine-clay intercalation materials: application in amperometric sensors", **Chem. Mater.** **17**, 708-715 (2005)
- 121.M. DARDER, M. LOPEZ-BLANCO, P. ARANDA, F. LEROUX, E. RUIZ-HITZKY, "Bio-nanocomposites based on layered double hydroxides", **Chem. Mater.** **17**, 1969-1977 (2005)
- 122.V.M. PRIDA, M. HERNANDEZ-VELEZ, M. CERVERA, K. PIROTA, R. SANZ, D. NAVAS, A. ASENJO, P. ARANDA, E. RUIZ-HITZKY, F. BATALLAN, M. VAZQUEZ, B. HERNANDO, A. MENÉNDEZ, N. BORDEL, R. PEREIRO, "Maganetic behavior of arrays of Ni nanowires by electrodeposition into self-aligned Titania nanotubes", **J. Manegt. & Magnet. Mater.** **294**, e69-e72 (2005)
- 123.M. DARDER, M. LÓPEZ-BLANCO, P. ARANDA, E. RUIZ-HITZKY, "Hybrid organic-inorganic nanocomposites based on the intercalation of anionic biopolymers in layered double hydroxides" **Proceedings of the ERA-CHEMISTRY Workshop between Researchers and Administrators devoted to "Hierarchially organized chemical structures: from supramolecularity to hybrid materials"**, Mainz 2005
- 124.M. DARDER, E. RUIZ-HITZKY, "Caramel-clay nanocomposites", **J. Mater. Chem.** **35**, 3913 (2005)
- 125.Y. MOSQUEDA, E. PEREZ-CAPPE, P. ARANDA, E. RUIZ-HITZKY, "Preparation of $\text{Li}_x\text{Ni}_{0.8}\text{Co}_{0.2}\text{O}_2$ electrode material from Li-Co-Ni citrate precursors", **Eur. J. Inorg. Chem.** 2698-2705 (2005).
- 126.M. COLILLA, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Amino-polysiloxane hybrid materials as carbon composite electrodes for potentiometric detection of anions", **J. Mater. Chem.** **15**, 3844-3851 (2005)
- 127.E. RUIZ-HITZKY, M. DARDER, P. ARANDA, "Functional biopolymer nanocomposites", **J. Mater. Chem.** **15**, 3650-3662 (2005) and **COVER INSIDE PAGE** of the Special Issue on Functional Hybrid Materials, **J. Mater. Chem.** **15**, issues 35-36 (2005)
- 128.M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Materiales bio-nanocomposites funcionales basados en sólidos laminares y polisacáridos" en "**Materiales Compuestos 05**" (V. Amigó, J.J. Payá, M.D. Salvador, J.M. Monzó, F. Segovia and V. Borrachero, eds.), Editorial de la UPV, pp. 413-420, Valencia 2005 (ISBN 84-9705-821-6)
- 129.Y. MOSQUEDA, E. PÉREZ-CAPPE, J. ARANA, E. LONGO, A. RIESS, M. CILENCE, P.A.P. NASCENTE, P. ARANDA, E. RUIZ-HITZKY, "Preparation and characterization of $\text{LiNi}_{0.8}\text{Co}_{0.2}\text{O}_2/\text{PANI}$ microcomposite electrode materials under assisted ultrasonic irradiation", **J. Solid State Chem.** **179**, 308-314 (2006)
- 130.P. ARANDA, M. DARDER, R. FERNÁNDEZ-SAAVEDRA, M. LÓPEZ-BLANCO, E. RUIZ-HITZKY, "Relevance of polymer- and biopolymer-clay nanocomposites in electrochemical and electroanalytical applications", **Thin Solids Films** **495**, 104-112 (2006)
- 131.M. DARDER, P. ARANDA, M. HERNÁNDEZ-VÉLEZ, E. MANOVA AND E. RUIZ-HITZKY, "Encapsulation of enzymes in alumina membranes of controlled pore size", **Thin Solids Films** **495**, 321-326 (2006)
- 132.S. LETÁĚEF, M.A. MARTÍN-LUENGO, P. ARANDA, E. RUIZ-HITZKY, "A colloidal route for delamination of layered solids: novel porous-clay nanocomposites", **Adv. Funct. Mater.**, **16**, 401-409 (2006)

- 133.M. DARDER, P. AMARELLIS, P. ARANDA, E. RUIZ-HITZKY, H. VAN DAMME, "Clay-gelatin hybrid gels. Structure and mechanical properties", **Clay Sci. 12, Supplement 2**, 46-51 (2006)
- 134.M. DARDER, M. LÓPEZ-BLANCO, P. ARANDA, A.J. AZNAR, J. BRAVO, E. RUIZ-HITZKY, "Chitosan-sepiolite bionanocomposites", **Chem. Mater. 18**, 1602-1610 (2006)
- 135.F. GÁNDARA, F. LÓPEZ-ARBELOA, E. RUIZ-HITZKY, M. A. CAMBLOR, "Bottle-around-a-ship" confinement of high loadings of acridine orange in new aluminophosphate crystalline materials" **J. Mater. Chem. 16**, 1765-1771 (2006).
- 136.A.I. RUIZ, M. DARDER, P. ARANDA, R. JIMÉNEZ, H. VAN DAMME, E. RUIZ-HITZKY, "Bionanocomposites by assembling of gelatin and layered perovskite mixed oxides", **J. Nanoscience & Nanotechnology 6**, 1602-1610 (2006)
- 137.M. DARDER, A.I. RUIZ, P. ARANDA, H. VAN DAMME, E. RUIZ-HITZKY, "Bio-nanohybrids based on layered inorganic solids: gelatin nanocomposites", **Current Nanoscience 2**, 231-241 (2006)
- 138.E. RUIZ-HITZKY, A. VAN MEERBEEK, "Polymer-clay nanocomposites". Capítulo 10.3 en **Handbook of Clay Science**, F. Bergaya, B.K.G. Theng & G. Lagaly, eds., pág. 583-621, Elsevier Science Ltd, Amsterdam, 2006.
- 139.E. DONCEL-PÉREZ, M. DARDER, E. MARTÍN-LÓPEZ, L. VÁZQUEZ, M. NIETO-SAMPEDRO, E. RUIZ-HITZKY
- 140."Gelation under dynamic conditions: a strategy for *in vitro* cell ordering", **J. Mater. Sci. Mater. Med. 17**, 795-802 (2006)
141. E. RUIZ-HITZKY, M. DARDER, editors of the Special Issue "**Trends in Bio-hybrid Nanostructured Materials**", of **Current Nanoscience** Vol. 2, Nº 3 (2006), pp. 153-294.
- 142.M. DARDER, A. GÓMEZ-ÁVILES, P. ARANDA, E. RUIZ-HITZKY, "Nanocomposites carbón-arcilla derivados de sacarosa", **MACLA**, 159-160 (2006)
- 143.P. ARANDA, S. LETAÏEF, M.A. MARTÍN-LUENGO, E. RUIZ-HITZKY, "Preparación y propiedades de nanocomposites inorgánicos basados en arcillas y sílice", **MACLA**, 67-68 (2006)
- 144.M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Bio-nanocomposites: nuevos materiales ecológicos, biocompatibles y funcionales", **Anales de Química**, **103**, 21-29 (2007)
145. A.GÓMEZ-AVILÉS, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Functionalized carbon-silicate from caramel-sepiolite nanocomposites", **Angew. Chem. 46**, 923-925 (2007)
- 146.M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Bionanocomposites: a new concept of ecological, bioinspired and functional hybrid materials", **Adv. Mater. 19**, 1309-1319 (2007)
- 147.E. RUIZ-HITZKY, M. DARDER, "Bionanocomposites based on clay minerals", Capítulo 8 del libro **Clay-Based Polymer Nanocomposite, Clay Minerals Society Workshop Lectures Series Vol. 14**, K.A. Carrado & F. Bergaya eds., The Clay Minerals Society, Chantilly (Virginia, EEUU) 2007, pp. 231-256
- 148.L. BURGOS-ASPERILLA, M. DARDER, P. ARANDA, L. VÁZQUEZ, M. VÁZQUEZ, E. RUIZ-HITZKY, "Magnetocerasomes: new magnetic hybrid materials", **J. Mater. Chem. 17**, 4233-4238 (2007) **COVER PAGE** (JMC Vol. 17, Number 40)

- 149.V.M. PRIDA, E. MANOVA, V. VEGA, M. HERNÁNDEZ-VÉLEZ, P. ARANDA, K.R. PIROTA, M. VÁZQUEZ, E. RUIZ-HITZKY, "Temperature influence on the anodic growth of self-aligned titanium dioxide nanotube arrays", **J. Magnet. & Magnet. Mater.** **316**, 110-113 (2007)
- 150.V. VEGA, V.M. PRIDA, M. HERNÁNDEZ-VÉLEZ, E. MANOVA, P. ARANDA, E. RUIZ-HITZKY, M. VÁZQUEZ, "Influence of anodic conditions on self-ordered growth of highly aligned titanium oxide nanopores", **Nanoscale Res. Lett.** **2**, 355-363 (2007)
- 151.E. RUIZ-HITZKY, M. DARDER, P. ARANDA, "An introduction to Bio-nanohybrid materials" Chapter 1, pp 1-40, in **Bio-inorganic Hybrid Nanomaterials: Strategies, Syntheses, Characterization and Applications**, E. Ruiz-Hitzky, K. Ariga, Y. Lvov, eds., Wiley-VCH, Weinheim, 2007
- 152.E. RUIZ-HITZKY, K. ARIGA, Y. LVOV (Editores). **Bio-inorganic Hybrid Nanomaterials: Strategies, Syntheses, Characterization and Applications**, Wiley-VCH, Weinheim, 2007 (ISBN 978-3-527-31718-9)
- 153.P. ARANDA, R. KUN, M.A. MARTÍN-LUENGO, S. LETAÏEF, I. DÉKÁNY, E. RUIZ-HITZKY, "Titania-sepiolite nanocomposites prepared by a surfactant templating colloidal route", **Chem. Mater.** **20**, 84-89 (2008)
- 154.R. FERNÁNDEZ-SAAVEDRA, M. DARDER, A. GÓMEZ-AVILÉS, P. ARANDA, E. RUIZ-HITZKY, "Polymer-clay nanocomposites as precursors of nanostructured carbon materials for electrochemical devices: templating effect of clays", **J. Nanosci. Nanotech.** **8**, 1741-1750 (2008)
- 155.S. LETAÏEF, P. ARANDA, ROCÍO FERNÁNDEZ-SAAVEDRA, JAMES C. (JIM) MARGESON, CHRISTIAN DETELLIER, EDUARDO RUIZ-HITZKY, "Poly(3,4-ethylenedioxythiophene)-clay nanocomposites", **J. Mater. Chem.** **18** 2227-2233 (2008)
- 156.E. PÉREZ-CAPPE, Y. MOSQUEDA, R. MARTINEZ, C.R. MILLÁN, O. SÁNCHEZ, J.A. VARELA, A. HORTENCIA, E. SOUZA, P. ARANDA, E. RUIZ-HITZKY, "Preparation and properties as positive electrodes of PANI-LiNi_{0.8}Co_{0.2}O₂ nanocomposites", **J. Mater. Chem.** **18**, 3965-3971 (2008)
- 157.A.C.S. DE ALCÁNTARA, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Interacciones de zeína con minerales de la arcilla", **MACLA**, núm. 9, 25-26 (2008)
- 158.M. DARDER, F.M. FERNANDES, A.I. RUIZ, P. ARANDA, E. RUIZ-HITZKY, "Propiedades estructurales y funcionales de nanocomposites gelatina-arcilla", **MACLA**, núm. 9, 79-80 (2008)
- 159.B.WICKLEIN, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Organically modified clays for uptake of mycotoxins", **MACLA**, núm. 9, 257-258 (2008)
- 160.M. DARDER, P. ARANDA, A.I. RUIZ, F.M. FERNANDES, E. RUIZ-HITZKY, "Design and preparation of bio-nanocomposites based on layered solids with functional and structural properties", **Mater. Sci. Technol.** **24**, 1100-1110 (2008)
- 161.M. DÍAZ-DOSQUE, P. ARANDA, M. DARDER, J. RETUERT, M. YAZDANI-PEDRAM, J.L. ARIAS, E. RUIZ-HITZKY, "Use of biopolymers as oriented supports for the stabilization of different polymorphs of biomineralized calcium carbonate with complex shape", **J. Cryst. Growth** **310**, 5331-5340 (2008)
- 162.F.M. FERNANDES, A.I. RUIZ, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Gelatin-clay bionanocomposites: structural and functional properties as advanced materials", **J. Nanosci. Nanotech.** **9**, 221-229 (2009)

- 163.E. RUIZ-HITZKY, P. ARANDA, M. DARDER,, "Bionanocomposites", **Kirk-Othmer Encyclopedia of Chemical Technology**, John Wiley & Sons, pp 1-28 (2008). (<http://mrw.interscience.wiley.com/emrw/9780471238966/home/>)
- 164.M. DARDER, A. VALERA, E. NIETO, M. COLILLA, C.J. FERNÁNDEZ, R. ROMERO-ARANDA, J. CUARTERO, E. RUIZ-HITZKY, "Multisensor device based on Case-Based Reasoning (CBR) for monitoring nutrient solutions in fertigation", **Sensors & Actuators B**, **135** 530–536 (2009)
- 165.E. RUIZ-HITZKY, P. ARANDA, M. DARDER, "Polymer and Biopolymer-Layered Solid Nanocomposites: Organic-Inorganic Assembling in Two-Dimensional Hybrid Systems" en **Bottom-up Nanofabrication: Supramolecules, Self-Assemblies, and Organized Films, Vol. 3. Self-Assemblies-1**, Capítulo 2, pag. 39-76, K. Ariga and H.S. Nawla eds., American Sci. Pub., Stevenson Ranch (California, EEUU), 2009 (ISBN 1-58883-082-9).
- 166.E. RUIZ-HITZKY, M. DARDER, P. ARANDA, "Progress in bionanocomposite materials" in **Annual Reviews of Nano Research Vol. 3**, G.Z. Cao, Q.F. Zhang, C.J. Brinker eds., pp. 149-189, World Scientific Publishing Co., Singapore, 2009 (ISBN 978-981-4280-51-8)
- 167.E. CARREGAL-ROMERO, V. J. CADARSO, A. LLOBERA, M. DARDER, P. JIMÉNEZ, P. ARANDA, E. RUIZ-HITZKY, C. DOMÍNGUEZ, C. FERNÁNDEZ-SÁNCHEZ, "Fabricación de componentes fotónicos basados en xerogel dopado con fluoróforos" (Fabrication of fluorophore-doped xerogel microstructures for photonic applications), **Opt. Pura Apl.**, **42**, 191-195 (2009)
- 168.E. RUIZ-HITZKY, "Nanostructured hybrid materials based on clays for environmental and biomedical applications", **Conference Proceedings of the NanoAfrica 2009**, ed. S. Sinha Ray, Petroria, 2009. (978-0-620-41129-5)
- 169.E. RUIZ-HITZKY, M. DARDER, P. ARANDA, M.A. MARTÍN DEL BURGO, G. DEL REAL, "Virus-bionanocomposite materials: application for flu vaccines", **Adv. Mater.**, **21**, 4167–4171, (2009).
- 170.R. FERNÁNDEZ-SAAVEDRA, P. ARANDA, K.A. CARRADO, G. SANDI, S. SEIFERT, E. RUIZ-HITZKY, "Template synthesis of nanostructured carbonaceous materials for application in electrochemical devices", **Curr. Nanosci.**, **5**, 506-513 (2009)
- 171.E. Ruiz-Hitzky & P. Aranda, eds., "**Jornada Científica Conmemorativa 50 Aniversario de la SEA**", FER Fotocomposición SA, Madrid 2009 (Depósito Legal M.48.264-2009).
- 172.E. RUIZ-HITZKY, M. DARDER, P. ARANDA, K. ARIGA, "Advances in Biomimetic and Nanostructured Biohybrid Materials", **Adv. Mater.**, **22**, 323-336 (2010)
- 173.M. COLILLA, P. ARANDA, M. DARDER, E. RUIZ-HITZKY, "Silacrown modified xerogels as functional hybrid materials for carbon composite electrodes", **Compt. Rend. Chim.**, **13**, 227-236 (2010)
- 174.E. MANOVA, P. ARANDA, M.A. MARTÍN-LUENGO, S. LETÁIEF, E. RUIZ-HITZKY, "New titania-clay nanostructured porous materials", **Micropor. Mesopor. Mater.**, **131**, 252-260 (2010)
- 175.A. GÓMEZ-AVILÉS, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Multifunctional materials based on graphene-like/sepiolite nanocomposites", **Appl. Clay Sci.**, **47**, 203-211 (2010)
176. B. WICKLEIN, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Bio-organoclays based on phospholipid-clay interactions as immobilization host for biological species", **Langmuir**, **26**, 5217-5225 (2010)
- 177.E. RUIZ-HITZKY, P. ARANDA, M. DARDER, G. RYTWO, "Hybrid materials based on clays for environmental and biomedical applications", **J. Mater. Chem.**, **20**, 9306-9321 (2010)

- 178.M. DARDER, P. ARANDA, L. BURGOS-ASPERILLA, A. LLOBERA, V. CADARSO, C. FERNÁNDEZ-SÁNCHEZ, E. RUIZ-HITZKY, "Functional materials based on algae encapsulated in sol-gel matrices", **J. Mater. Chem.** **20**, 9362-9369 (2010) & **FRONT COVER PAGE** Themed Issue: Advanced Hybrid Materials.
- 179.A.C.S. ALCÂNTARA, P. ARANDA, M. DARDER, E. RUIZ-HITZKY, "New biohybrid materials based on zeine-alginate for use in controlled drug delivery", **J. Mater. Chem.** **20**, 9495-9504 (2010)
- 180.E. RUIZ-HITZKY, C. BELVER, P. ARANDA, "Les solides lamellaires: perspectives de développement des matériaux poreux à grande aire spécifique" in **Actes du Congrès Matériaux 2010, Fédération Française pour les Sciences de la Chimie, Nantes 2010**. Ref: e-proceedings 1620-Ruiz-Hitzky-Eduardo, pp. 1-11.
- 181.C. BELVER, P. ARANDA, M.A. MARTÍN-LUENGO, E. RUIZ-HITZKY, "Nouveaux matériaux poreux à partir d'argiles délaminnées" in **Actes du Congrès Matériaux 2010, Fédération Française pour les Sciences de la Chimie, Nantes 2010**. Ref: e-proceedings 1635-Aranda-Pilar, pp. 1-4.
- 182.M. MARTIN-LUENGO, Y.M. YATES, E. SAEZ- ROJO, D. HUERTAS-ARRIBAS, D. AGUILAR, E. RUIZ-HITZKY, "Sustainable p-cymene and hydrogen from limonene", **Appl. Cata. A General** **387**, 141-146 (2010)
- 183.E. RUIZ-HITZKY, P. ARANDA, M. DARDER, M. OGAWA, "Hybrid and biohybrid silicate based materials: molecular versus block-assembling bottom-up processes", **Chem. Soc. Rev.** **40**, 801-828 (2011)
- 184.E. RUIZ-HITZKY, "Nano- and bionano-composites based on sepiolite fibrous clay", **Proceedings of the ACS Division of Polymeric Materials: Science & Engineering, 241st National Meeting and Exposition of the American-Chemical-Society (ACS)**, Anaheim, CA, March 27-31, 2011, Vol. 241, 299-PMSE, pp 104-105, 2011
- 185.A.C.S Alcântara, P. Aranda, M. Darder, E. Ruiz-Hitzky, "Zein-clay biohybrids as nanofillers of alginate based bionanocomposites", **Proceedings of the ACS Division of Polymeric Materials: Science & Engineering, 241st National Meeting and Exposition of the American-Chemical-Society (ACS)**, Anaheim, CA, March 27-31, 2011, Vol. 241, 299-PMSE, pp 114-115, 2011
- 186.F.M. FERNANDES, M. DARDER, A.I. RUIZ, P. ARANDA, E. RUIZ-HITZKY, "Gelatin based bionanocomposites" in **Nanocomposites with Degradable Properties: Synthesis, Properties and Future Perspectives**, V. Mittal ed., pag. 209-233, Oxford University Press Inc., New York, 2011 (ISBN 978-0-19-958192-4) and **FRONT COVER PAGE**
- 187.F.M. FERNANDES, I. MANJUBALA, E. RUIZ-HITZKY, "Gelatin renaturation and the interfacial role of fillers in bionanocomposites", **Phys. Chem. Chem. Phys.** **13**, 4901-4910 (2011)
- 188.E. RUIZ-HITZKY, P. ARANDA, A. ALVAREZ, J. SANTAREN, A. ESTEBAN-CUBILLO, "Advanced Materials and New Applications on Sepiolite" Chapter 17 in **Developments in Palygorskite-Sepiolite Research. A New Outlook on these Nanomaterials**, E. Galán and A. Singer, eds., pp 393-452, Elsevier, Oxford, 2011 (ISBN 978-0-444-53607-5)
- 189.M. DARDER, P. ARANDA, M. L. FERRER, M. C. GUTIÉRREZ, F. DEL MONTE AND E. RUIZ-HITZKY, "Progress in bionanocomposites foams", **Adv. Mater.** **23**, 5262-5267 (2011)
- 190.E. RUIZ-HITZKY, M. DARDER, F.M. FERNANDES, E. ZATILE, F.J. PALOMARES, P. ARANDA, "Supported graphene from natural resources: easy preparation and applications", **Adv. Mater.** **23**, 5250-5255 (2011)

- 191.Y. GONZÁLEZ-ALFARO, P. ARANDA, F.M. FERNANDES, B. WICKLEIN, M. DARDER, E. RUIZ-HITZKY, "Multifunctional porous materials through ferrofluids", **Adv. Mater.** **23**, 5224–5228 (2011)
- 192.B. WICKLEIN, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Phospholipid-sepiolite biomimetic interfaces for the immobilization of enzymes", **ACS Appl. Mater. Interfaces** **3**, 4339–4348 (2011)
- 193.E. RUIZ-HITZKY, "Materials Science in Madrid", **Adv. Mater.** **23**, 5126-5129 (2011)
- 194.M. MARTIN-LUENGO, Y.M. YATES, M. RAMOS, E. SAEZ- ROJO, A.M. MARTINEZ-SERRANO, L. GONZALEZ-GIL, E. RUIZ-HITZKY, "Biomaterials from beer manufacture waste for bone growth scaffolds", **Green Chem. Lett. Rev.** **4**, 229-233 (2011)
- 195.P. ARANDA, F.M. FERNANDES, B. WICKLEIN, E. RUIZ-HITZKY, J.P. HILL, K. ARIGA, "Bioinspired Materials Chemistry: Organic-Inorganic Nanocomposites" Ch. 5 en **Bioinspiration and Biomimicry in Chemistry**, G.F. Swiegers ed., pp. 121-138, John Wiley & Sons, New York 2012 (ISBN-0470566671 y 9780470566671)
- 196.A.C.S. ALCÁNTARA, M. DARDER, P. ARANDA, M.T. OKAJIMA, T. KANEKO, M. OGAWA, E. RUIZ-HITZKY, "Bionanocomposites based on the megamolecular polysaccharide sacran and clay minerals", **MACLA** **16** (June), 108-109 (2012)
- 197.E. PADILLA-ORTEGA, M. DARDER, P. ARANDA, R. LEYVA RAMOS, E. RUIZ-HITZKY, "Bionanocomposites quitosano-vermiculita: propiedades de adsorción de cadmio", **MACLA** **16** (June), 110-111 (2012)
- 198.Y. KORICHE, M. DARDER, P. ARANDA, S. SEMSARI, E. RUIZ-HITZKY, "Removal of congo red from aqueous solutions by cationic-starch/clay bionanocomposites", **MACLA** **16** (June), 112-113 (2012)
- 199.C. BELVER, P. ARANDA, M.A. MARTÍN-LUENGO, E. RUIZ-HITZKY, "Silica/alumina-clay nanocomposites from Cloisite organoclay: Properties as acid catalysts", **Micropor. Mesopor. Mater.** **147**, 157–166 (2012)
- 200.N. LARA, P. ARANDA, A.I. RUIZ, V. MANRÍQUEZ, E. RUIZ-HITZKY, "Intercalation and electrical behaviour of TaxMo_{1-x}S₂ (x > 0.5) layered mixed disulphides", **J. Braz. Chem. Soc.** **23** 415–425 (2012)
- 201.E. RUIZ-HITZKY, P. ARANDA, "Prefacio", **Recent Patents Nanotech.** **6** (January) 1 (2012)
- 202.M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Chitosan-Clay Bio-nanocomposites" Chap. 14 in **Environmental Silicate Nano-biocomposites**, L. Avérous and E. Pollet, eds., pp. 365-392, Springer-Verlag, London 2012 (ISBN 978-1-4471-4101-3; ISSN 1865-3529)
- 203.A.C.S. ALCÁNTARA, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Zein-fibrous clays biohybrid materials", **Eur. J. Inorg. Chem.** 5216–5224 (2012)
- 204.B. WICKLEIN, M. PARRA YUSTE, M.A. MARTÍN DEL BURGO, M. DARDER, C. ESCRIG LLAVATA, P. ARANDA, J. ORTIN, G. DEL REAL, E. RUIZ-HITZKY, "Lipid-based bio-nanohybrids for functional stabilization of influenza vaccines" **Eur. J. Inorg. Chem.** 5186–5191 (2012)
- 205.E. CARREGAL-ROMERO, A. LLOBERA, V. J. CADARSO, M. DARDER, P. ARANDA, C. DOMÍNGUEZ, E. RUIZ-HITZKY, C. FERNÁNDEZ-SÁNCHEZ, "One-step patterning of hybrid xerogel materials for the fabrication of disposable solid-state emitters", **ACS Appl. Mater. Interfaces** **4**, 5029–5037 (2012)

- 206.P. ARANDA, A.C.S. ALCÁNTARA, L.N.M. RIBEIRO, M. DARDER, E. RUIZ-HITZKY, "Bionanocomposites as drug delivery systems", **Proc. SPIE on Nanosystems in Engineering and Medicine**, S.H. Choi, J.H. Choy, U. Lee, V.K. Varadan Eds., Vol. **8548**, pp 85486D1-85486D8, (2012)
- 207.Y.Q. SHEN, E. RUIZ-HITZKY, K. AVGOUSTAKIS, L.Q. WANG, "A tribute to a living legend", **Curr. Nanosci.** **8**, IX-IX (2012)
- 208.E. RUIZ-HITZKY, M. DARDER, B. WICKLEIN, F.M. FERNANDES, F.A. CASTRO, M.A. MARTIN DEL BURGO, G. DEL REAL, P. ARANDA, "Advanced biohybrid materials based on nanoclays for biomedical applications", **Proc. SPIE on Nanosystems in Engineering and Medicine**, S.H. Choi, J.H. Choy, U. Lee, V.K. Varadan Eds., Vol. **8548**, pp 85480D1-85480D8, (2012)
- 209.E. RUIZ-HITZKY, P. ARANDA, C. BELVER, "Nanoarchitectures based on clay materials" Chap. 4, in **Manipulation of Nanoscale Materials: An Introduction to Nanoarchitectonics**, K. Ariga, ed., pp. 87-111, Royal Society of Chemistry, Cambridge 2012 (ISBN: 978-1-84973-415-8)
- 210.B. WICKLEIN, M.A. MARTÍN DEL BURGO, M. YUSTE, E. CARREGAL-ROMERO, A. LLOBERA, M. DARDER, P. ARANDA, J. ORTIN, G. DEL REAL, C. FERNÁNDEZ-SÁNCHEZ, E. RUIZ-HITZKY, "Biomimetic architectures for the discrimination of influenza virus phenotypes" **Adv. Funct. Mater.** **23**, 254–262 (2013).
- 211.J. PÉREZ-CARVAJAL, P. ARANDA, A. BERENQUER, D. CAZORLA, J. CORONAS, E. RUIZ-HITZKY, "Nanoarchitectures based on layered titanosilicates supported on glass-fibers: application to hydrogen storage", **Langmuir** **29**, 7449–7455 (2013)
- 212.E. RUIZ-HITZKY, F.M. FERNANDES, "Progress in Bionanocomposites: From green plastics to biomedical applications", **Pogr. Polym. Sci.** **38**, 1391 (2013)
- 214.E. RUIZ-HITZKY, M. DARDER, F.M. FERNANDES, B. WICKLEIN, A.C.S. ALCÁNTARA, P. ARANDA, "Bionanocomposites based on fibrous clays", **Pogr. Polym. Sci.** **38**, 1392-1414 (2013)
- 215.E. RUIZ-HITZKY, P. ARANDA, "The progress on the Recent Patents on Nanotechnology contributions", **Recent Patents Nanotech.** **7** (January) 1 (2013)
- 216.P. ZAPATA, C. BELVER, R. QUIJADA, P. ARANDA, E. RUIZ-HITZKY, "Silica-clay organo-heterostructures to promote polyethylene-clay nanocomposites", **Appl. Cat. A General** **453**, 142– 150 (2013)
- 217.A. GÓMEZ-AVILÉS, P. ARANDA, F.M. FERNANDES, C. BELVER, E. RUIZ-HITZKY, "Silica-sepiolite nanoarchitectures", **J. Nanosci. Nanotechnol.** **13**, 2897-2907 (2013)
- 218.Y. KORICHE, M. DARDER, P. ARANDA, S. SEMSARI, E. RUIZ-HITZKY, "Efficient and ecological removal of anionic pollutants by cationic starch-clay bionanocomposites", **Sci. Adv. Mater.** **5**, 994–1005 (2013)
- 219.B. WICKLEIN, P. ARANDA, E. RUIZ-HITZKY, M. DARDER, "Nanostructured bioactive foams based on polyvinyl alcohol-sepiolite nanocomposites", **J. Mater. Chem. B** **1**, 2911–2920 (2013)
- 220.C. BELVER, P. ARANDA, E. RUIZ-HITZKY, "Silica/alumina-sepiolite nanoarchitectures", **J. Mater. Chem. A** **1**, 7477–7467 (2013)
- 221.C. RUIZ-GARCÍA, J. PÉREZ-CARVAJAL, A. BERENQUER-MURCIA, M. DARDER, P. ARANDA, D. CAZORLA-AMORÓS, E. RUIZ-HITZKY, "Clay-supported graphene materials: application to hydrogen storage", **Phys. Chem. Chem. Phys.** **15**, 18635-18641 (2013)

- 222.T. OKADA, Y. GONZALEZ-ALFARO, A. LOZANO, N. WATANABE, T. HAEIWA, M. SONEHARA, S. MISHIMA, T. SATO, P. ARANDA, M. A. GARCIA, E. RUIZ-HITZKY, "Magnetic and electronic properties of bimagnetic materials of Co@SiO₂ decorated with magnetite nanoparticles", **J. Appl. Phys.** **114**, 124304.1-124304.8 (2013)
- 223.E. RUIZ-HITZKY, P. ARANDA, M. DARDER, F.M. FERNANDES, "Nano- and Bionano-composites based on fibrous clay minerals". Chap. 13.3 in **Handbook of Clay Science 2nd Ed.**, F. Bergaya & G. Lagaly, eds., pp. 721-743 Elsevier Science Ltd, Oxford 2013 (ISBN: 978-0-08-098259-5)
- 224.P. ARANDA, CAROLINA BELVER, JAIME CUEVAS, MANUEL POZO, EDUARDO RUIZ-HITZKY eds., "2013 Jornada Científica de la Sociedad Española de Arcillas: En homenaje al profesor José M. Serratos", Sociedad Española de Arcillas, FER Fotocomposición SA, Madrid 2013 (ISBN: 978-84-616-6715-4)
- 225.E. MARTIN-LOPEZ, M. DARDER, E. RUIZ-HITZKY, M.N. SAMPEDRO, "Agar-based bridges as biocompatible candidates to provide guide cues in spinal cord injury repair", **Biomed. Mater. Engin.** **23**, 405-421 (2013)
- 226.C. RUIZ-GARCÍA, R. JIMÉNEZ, J. PÉREZ-CARVAJAL, A. BERENQUER-MURCIA, M. DARDER, P. ARANDA, D. CAZORLA-AMORÓS, E. RUIZ-HITZKY, "Graphene-clay based nanomaterials for clean energy storage", **Sci. Adv. Mater.** **6**, 150-157 (2014)
- 227.C. RUIZ-GARCÍA, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Toward a green way for the chemical production of supported graphenes" **J. Mater. Chem. A** **2**, 2009–2017 (2014)
- 228.A.C.S. ALCÂNTARA, M. DARDER, P. ARANDA, S. TATEYAMA, M.K. OKAJIMA, T. KANEKO, M. OGAWA, E. RUIZ-HITZKY, "Clay-bionanocomposites with sacran megamolecules for the selective uptake of neodymium", **J. Mater. Chem. A** **2**, 1391-1399 (2014)
- 229.L.N.M. RIBEIRO, A.C.S. ALCÂNTARA, M. DARDER, P. ARANDA, F.M. ARAÚJO-MOREIRA, E. RUIZ-HITZKY, "Pectin-coated chitosan-LDH bionanocomposite beads for colon-targeted drug delivery" **Int. J. Pharm.** **463**, 1–9 (2014)
- 230.F.M. Fernandes, L. Vázquez, E. Ruiz-Hitzky, A. Carnicero, M. Castro, "Elastic properties of natural single nanofibres" **RSC Adv.** **4**, 11225–11231 (2014)
- 231.E. RUIZ-HITZKY, P. ARANDA, "Novel architectures in porous materials based on clays", **J. Sol-Gel Sci. Technol.** **70**, 307–316 (2014)
- 232.E. RUIZ-HITZKY, P. ARANDA, "Applicative trends in nanoscience: recent patents on nanotechnology", **Recent Patents Nanotech.** **8** (January) 1 (2014)
- 233.P. ARANDA, C. BELVER, E. RUIZ-HITZKY, "Inorganic heterostructured materials based on clay minerals" in **CMS Workshop Lectures (e-Workshop Lectures) Vol. 17, "Clays and Materials"**, L.F. Drummy, M. Ogawa & P. Aranda eds., The Clay Minerals Society, Chantilly (Virginia, EEUU), 2014 (ISBN: 978-1-881208-40-2).
- 234.F. M. FERNANDES, E. RUIZ-HITZKY "Assembling nanotubes and nanofibres: Cooperativeness in sepiolite-carbon nanotube materials" **Carbon** **72**, 296–303 (2014)
- 235.Y. KORICHE, M. DARDER, P. ARANDA, S. SEMSARI, E. RUIZ-HITZKY, "Bionanocomposites based on layered silicates and cationic starch as eco-friendly adsorbents for hexavalent chromium removal", **Dalton Trans.** **43**, 10512–10520 (2014)

- 236.A. GÓMEZ-AVILÉS, C. BELVER, P. ARANDA, E. RUIZ-HITZKY, M.A. CAMBLOR, "Zeolite-sepiolite nanoheterostructures" **J. Nanostr. Chem** (2014) 4: 90 (Published online: 14 March 2014) DOI 10.1007/s40097-014-0090-5
- 237.A.C.S. ALCÂNTARA, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Polysaccharide-fibrous clay bionanocomposites", **Appl. Clay Sci.** **96**, 2–8 (2014). Work awarded with the 2013 AIPEA Bradley Award
- 238.M. DARDER, Y. GONZÁLEZ-ALFARO, P. ARANDA, E. RUIZ-HITZKY, "Silicate-based multifunctional nanostructured materials with magnetite and Prussian blue: application to cesium uptake", **RSC Adv.** **4**, 35415–35421 (2014)
- 239.L.N.M. RIBEIRO, A.C.S. ALCÂNTARA, M. DARDER, P. ARANDA, P.S.P. HERRMANN JR., F.M. ARAÚJO-MOREIRA, M. GARCÍA-HERNÁNDEZ, E. RUIZ-HITZKY, "Bionanocomposites containing magnetic graphite as potential systems for drug delivery", **Int. J. Pharm.** **477**, 553–563 (2014)
- 240.B. GHADDAB, V. GAUDEFROY, F. MICHELIS, E. RUIZ-HITZKY, P. ARANDA, C. RUIZ-GARCÍA, B. LEBENTAL, "An innovative nanosensor for weigh-in-motion applications" in **"EWSHM - 7th European Workshop on Structural Health Monitoring (2014)", Proceedings of the 7th European Workshop on Structural Health Monitoring**, pp 1773-1779, (<http://hal.inria.fr/EWSHM-THAT3>; 03/10/2014)
- 241.N. JOVI-JOVICI, P. ARANDA, M. DARDER, E. RUIZ-HITZKY, P. BANKOVI, M. ŽUNI, A. MILUTINOVI-NIKOLI, "Chitosan-smectite biointerfaces vs. Alkylammonium-clay interfaces in adsorption process", in **Book of Proceeding of 12th International Conference on Fundamental and Applied Aspects of Physical Chemistry, Vol. 3**, pp. 991-994 (2014).
- 242.E. RUIZ-HITZKY, M. DARDER, B. WICKLEIN, A.C.S. ALCÂNTARA, P. ARANDA, "Recent advances of fibrous clay-based nanocomposites" **Adv. Polym. Sci.** **267**, 39-86 (2015)
- 243.E. RUIZ-HITZKY, P. ARANDA, "Prefacio. Recent Patents on Nanotechnology: impact and current trends on applied knowledge" **Recent Patents Nanotech.** **9** (January) 2 (2015)
- 244.N. RESCIGNANO, Y. GONZÁLEZ-ALFARO, E. FANTECHI, M. MANNINI, C. INNOCENTI, E. RUIZ-HITZKY, J.M. KENNY, I. ARMENTANO, "Design, development and characterization of a nanomagnetic system based on iron oxide nanoparticles encapsulated in PLLA-nanospheres" **Eur. Polym. J.** **62**, 145–154 (2015)
- 245.C. OUELLET-PLAMONDON, P. ARANDA, A. FAVIER, G. HABERT, H. VAN DAMME, E. RUIZ-HITZKY, "The Maya blue nanostructured material concept applied to colouring geopolymers", **RSC Adv.** **5**, 98834–98841 (2015)
- 246.E. RUIZ-HITZKY, P. ARANDA, M. DARDER, "Hybrid and biohybrid materials based on clays" **Chap. 6**, pp. 245–297, in **Tailored Organic-Inorganic Materials, 1st edition**, E. Brunet, J.L. Colón & A. Clearfield eds., John Wiley & Sons Inc., Hoboken (NJ), 2015 (ISBN: 978-1-118-77346-8)
- 247.P. ARANDA, C. BELVER, E. RUIZ-HITZKY, "Hybrid nanoarchitectures by sol-gel from silica and silicate building blocks" **Chap. 14**, pp 443–470 in **The Sol-Gel Handbook: Synthesis, Characterization and Applications**, First Edition, Vol. 1, D. Levy & M. Zayat eds., Wiley-VCH, Weinheim, 2015 (ISBN: 978-3-527-33486-5)
- 248.E. RUIZ-HITZKY, M. DARDER, F.M. FERNANDES, B. WICKLEIN, A.C.S. ALCÂNTARA, P. ARANDA, "Bionanocomposites of sepiolite and playgorskite and their medical issues", **Chap. 9**, pp. 173–196 in

Progress in Natural Mineral Nanotubes, P. Pasbakhsh & D.G. Churchman, CRC Press & Apple Acad. Press Inc., Boca Raton (FL) & Oakville (ON), 2015 (ISBN 9781771880565)

- 249.E. RUIZ-HITZKY, P. ARANDA, "Preface", **Recent Patents Nanotech. 10** (April) 1 (2016)
- 250.A.C.S. ALCÂNTARA, M. DARDER, P. ARANDA, A. AYRAL, E. RUIZ-HITZKY, Bionanocomposites based on polysaccharides and fibrous clays for packaging applications, **J. Appl. Polym. Sci.** DOI: 10.1002/app.42362, 1–14 (2016)
- 251.J. PEREZ-CARVAJAL, P. ARANDA, S. OBREGÓN, G. COLÓN, E. RUIZ-HITZKY, "TiO₂-clay based nanoarchitectures for enhanced photocatalytic hydrogen production", **Micropor. Mesopor. Mater. 222**, 120–127 (2016)
- 252.Z. MOJOVIĆ, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, P. BANKOVIĆ, A.M. NIKOLIĆ, D. JOVANOVIĆ, N. JOVIĆ-JOVIČIĆ, "Chitosan-bentonite based electrodes in electrochemical detection of phenol and its derivatives", **Appl. Clay Sci. 124–125**, 62–68 (2016)
- 253.E. PADILLA-ORTEGA, M. DARDER, P. ARANDA, R. FIGUEREDO-GOUVEIA, R. LEYVA-RAMOS, E. RUIZ-HITZKY, "Ultrasound assisted preparation of chitosan-vermiculite bionanocomposite foams for cadmium uptake", **Appl. Clay Sci. 130**, 40–49 (2016)
254. A. GÓMEZ-AVILÉS, P. ARANDA, E. RUIZ-HITZKY, "Layered double hydroxide/sepiolite heterostructured materials", **Appl. Clay Sci. 130**, 83–92 (2016)
- 255.M. AKKARI, P. ARANDA, H. BEN RHAJEM, A. BEN HAJ AMARA, E. RUIZ-HITZKY, "ZnO/clay nanoarchitectures: synthesis, characterization and evaluation as photocatalysts", **App. Clay Sci. 131**, 131–139 (2016)
- 256.F.A. CASTRO-SMIRNOV, O. PIÉTREMENT, P. ARANDA, J.R. BERTRAND, J. AYACHE, E. LE CAM, E. RUIZ-HITZKY, B.S. LOPEZ, "Physical interactions between DNA and sepiolite nanofibers, and potential application for DNA transfer into mammalian cells", **Sci. Rep. 6**, 36341 (2016); doi: 10.1038/srep36341 (Open Access)
- 257.E. RUIZ-HITZKY, M.M.C. SOBRAL, A. GÓMEZ-AVILÉS, C. NUNES, C. RUIZ-GARCÍA, P. FERREIRA, P. ARANDA, "Clay-graphene nanoplatelets functional conducting composites", **Adv. Funct. Mater. 26**, 7394–7405 (2016). INSIDE BACK COVER PAGE.
- 258.A.C.S. ALCÂNTARA, M. DARDER, P. ARANDA, E. RUIZ-HITZKY, "Effective intercalation of zein into sodium montmorillonite: role of the protein components and use of the developed biointerfaces", **Beilstein J. Nanotech. 7**, 1772–1782 (2016) (Open Access)
- 259.M. AKKARI, P. ARANDA, A. BEN HAJ AMARA, E. RUIZ-HITZKY, "Organoclay hybrid materials as precursors of ZnO/silica-clay porous heterostructures for photocatalytic applications", **Beilstein J. Nanotech. 7**, 1971–1982 (2016) (Open Access)
- 260.B. WICKLEIN, M. DARDER, P. ARANDA, M.A. MARTIN DEL BURGO, G. DEL REAL, M. ESTEBAN, E. RUIZ-HITZKY, "Clay-lipid nanohybrids: Toward influenza vaccines and beyond", Awarded with the Martín-Vivaldi 2015 Award at the Euroclay Conference 2015, **Clay Miner. 51**, 529–538 (2016)
- 261.E. RUIZ-HITZKY, F.M. FERNANDES, B. WICKLEIN, P. ARANDA, "Clay-based bionanocomposite foams" **Chap. 9**, pp 251–266 in **Biofoams: Science and Applications of Bio-Based Cellular and Porous Materials**, S. Iannace & C.B. Park eds., CRC Press, Boca Raton (FL), 2016 (ISBN: 9781466561793).

- 262.E. RUIZ-HITZKY, P. ARANDA, M. DARDER, "Hybrid nanomaterials" pp 330-346, in **CRC Concise Encyclopedia of Nanotechnology**, B.I. Kharisov, O.V. Kharissova & U.Ortiz Méndez eds., CRC Press-Francis Taylor, Boca Raton (FL) 2016 (ISBN 9781466580343).
- 263.P. ARANDA, E. RUIZ-HITZKY, "Nanoarchitectures based on sepiolite: assembly of nanoparticles", Chap. 7, pp. 87–100, in CMS Workshop Lectures Series Vol. 20, "Surface Modification of Clays and Nanocomposites", G. Beall & C.E. Powell eds., The Clay Minerals Society, Chantilly, Virginia (USA), 2016 (ISBN 9781881208440)
- 264.E. RUIZ-HITZKY, P. ARANDA (Editors), "General considerations on the 2016 volume of Recent Patents on Nanotechnology journal", **Recent Patents Nanotech.** 11 (April) 2 (2017)
- 265.M. DARDER, C.R. SANTOS MATOS, P. ARANDA, R. FIGUEREDO GOUVEIA, E. RUIZ-HITZKY, "Bionanocomposite foams based on the assembly of starch and alginate polysaccharides with sepiolite fibrous clay", **Carbohydr. Polym.** **157**, 1933–1939 (2017)
- 266.E. RUIZ-HITZKY M. DARDER, B. WICKLEIN, A.C.S. ALCÂNTARA, P. ARANDA, "Fibrous clays as nanofillers in polymer-composites" **Chap. 1**, pp. 1–53, in "**Functional polymer composites with nanoclays**", Y. Lvov, B. Guo & R. Fakhrollin. Eds., Royal Society of Chemistry, Cambridge 2017 (ISBN 978-1-78262-422-6)
- 267.P. ARANDA, M. DARDER, B. WICKLEIN, G. RYTWO, E. RUIZ-HITZKY, "Clay-organic interfaces for design of functional hybrid materials" in "Interfaces in Hybrid Materials", M.H. Delville, Ed., Wiley-VCH (in press)
- 268.F. CANENCIA, M. DARDER, P. ARANDA, F.M. FERNANDES, R. FIGUEREDO-GOUVEIA, E. RUIZ-HITZKY, "Conducting macroporous carbon foams derived from microwave-generated caramel/silica gel intermediates", **J. Mater. Sci.** **52**, 11269–11281 (2017).
- 269.F.A. CASTRO-SMIRNOV, J. AYACHE, O. PIÉTREMENT, J.R. BERTRAND, E. LE CAM, P. ARANDA, E. RUIZ-HITZKY, B.S. LOPEZ, "Cellular uptake pathways of sepiolite nanofibers and DNA transfection improvement", **Sci. Rep.** **7**, 5586 (2017); doi: 10.1038/s41598-017-05839-3 (Open Access)
- 270.M. AKKARI, P. ARANDA, A. MAYORAL, M. GARCÍA-HERNANDEZ, A. BEN HAJ AMARA, E. RUIZ-HITZKY, Sepiolite nanoplatform for the simultaneous assembly of magnetite and zinc oxide nanoparticles as photocatalyst for improving removal of organic pollutants, **J. Hazardous Mater.** **340**, 281–290 (2017)
- 271.B. WICKLEIN, J. ARRANZ, A. MAYORAL, P. ARANDA, Y. HUTTEL, E. RUIZ-HITZKY, "Nanostructured carbon-metal hybrid aerogels from bacterial cellulose", **RSC Adv.** **7**, 42203–42210 (2017) (Open Access)
- 272.F.A. CASTRO-SMIRNOV, O.E. RODRÍGUEZ-HOYOS, F. GUZMÁN-MARTÍNEZ, B.S. LOPEZ, O. PIÉTREMENT, J. AYACHE, E. LE CAM, J.R. BERTRAND, P. ARANDA, E. RUIZ-HITZKY, "New biohybrid materials as nanocarriers of nucleic acids, and their biotechnological applications", **Biotec. Aplic.** **34**, 3511–3514 (2017). (Open Access)
- 273.M. AKKARI, P. ARANDA, C. BELVER, J. BEDIA, A. BEN HAJ AMARA, E. RUIZ-HITZKY, "ZnO/sepiolite heterostructured materials for solar photocatalytic degradation of pharmaceutical pollutants in wastewater", **Appl. Clay Sci.** **156**, 104–109 (2018). J.M. Serratos Award from the Spanish Clay Society at the XVI International Clay Conference (Granada, Spain, 2017)
- 274.P. ARANDA, M. DARDER, B. WICKLEIN, G. RYTWO, E. RUIZ-HITZKY, "Clay-organic interfaces for design of functional hybrid materials", Chap. 1, pp. 1–83, en "Hybrid Organic–Inorganic Interfaces: Toward Advanced Functional Materials" Vol. 1, M.H. Delville and A. Taubert Eds., Ed., Wiley-VCH, Weinheim, 2018 (ISBN: 978-3-527-34255-6).

- 275.M. AKKARI, P. ARANDA, A. BEN HAJ AMARA, E. RUIZ-HITZKY, "Clay-nanoarchitectures as photocatalysts by in situ assembly of ZnO nanoparticles and clay minerals", **J. Nanosci. Nanotech.** **18**, 223-233 (2018)
- 276.E. RUIZ-HITZKY, P. ARANDA (Editors) "Preface", **Recent Patents Nanotech.** 12 (April) 2 (2018)
- 277.E.P. REBITSKI, P. ARANDA, M. DARDER, R. CARRARO, E. RUIZ-HITZKY, "Intercalation of metformin in montmorillonite", **Dalton Trans.** **47**, 3185–3192 (2018)
- 278.M.M. GONZÁLEZ DEL CAMPO, M. DARDER, P. ARANDA, M. AKKARI, Y. HUTTEL, A. MAYORAL, J. BETTINI, E. RUIZ-HITZKY, "Functional hybrid nanopaper by assembling nanofibers of cellulose and sepiolite", **Adv. Funct. Mater.** 28 - 27, (2018), DOI: 10.1002/adfm.201703048)
- 279.M. DARDER, P. ARANDA, C. RUIZ-GARCÍA, F.M. FERNANDES, E. RUIZ-HITZKY, "The meeting point of carbonaceous materials and clays: towards a new generation of functional composites", **Adv. Funct. Mater.** 28-27 (2018). ISSN 1616-301X, ISSN 1616-3028; DOI: 10.1002/adfm.201704323)
- 280.M. FAUSTINI, L. NICOLE, E. RUIZ-HITZKY, C. SANCHEZ, "History of Organic-Inorganic Hybrid Materials: Prehistory, Art, Science, and Advanced Applications", **Adv. Funct. Mater.** 28 - 27, (2018). DOI: 10.1002/adfm.201704158).
- 281.O. PIÉTREMENT, F.A. CASTRO-SMIRNOV, E. LE CAM, P. ARANDA, E. RUIZ-HITZKY, J.R. BERTRAND, "Sepiolite as a new nanocarrier for DNA transfer into mammalian cells: proof of concept, issues and perspectives", **Chem. Rec.** (in press) DOI: 10.1002/tcr.201700078
- 282.P. ARANDA, E. RUIZ-HITZKY, "Immobilization of nanoparticles on fibrous clay surfaces: towards promising nanoplatforms for advanced functional applications", **Chem. Rec.** (in press). DOI: 10.1002/tcr.201700113
- 283.E. RUIZ-HITZKY, A. GÓMEZ-AVILÉS, M. DARDER, P. ARANDA, "Silacrown ethers-clay intercalation materials: application in potentiometric sensors", **Bull. Chem. Soc. Jpn.** (in press). DOI:10.1246/bcsj.20170425.
- 284.C. RUIZ-GARCÍA, F. HERAS, M.A. GILARRANZ, P. ARANDA, E. RUIZ-HITZKY, "Carbon-sepiolite composites doped with Pd as improving catalysts for hydrodechlorination processes", **Appl. Clay Sci.** 161, 132 - 138. (2018). ISSN 0169-1317, ISSN 1872-9053
- 285.E. RUIZ-HITZKY, M. DARDER, B. WICKLEIN, F.A. CASTRO-SMIRNOV, P. ARANDA, "Clay-based biohybrid materials for biomedical and pharmaceutical applications". **Clays & Clay Minerals.** 67, 44 - 58. (2019). ISSN 0009-8604, ISSN 1552-8367
- 286.J. PEREZ-CARVAJAL, P. ARANDA, E. RUIZ-HITZKY, "Titanosilicate-sepiolite hybrid nanoarchitectures for hydrogen technologies applications". **Journal of Solid State Chemistry.** 270, 287 - 294. ACADEMIC (2019). ISSN 0022-4596, ISSN 1095-726X
- 287.M. DJELLALI, P. ARANDA, E. RUIZ-HITZKY, "Silica-layered double hydroxide nanoarchitected materials". **Applied Clay Science.** 171, 65 - 73 (2019). ISSN 0169-1317, ISSN 1872-9053
- 288.K. CHARRADI, KHALED; Z. AHMED, R. ESCUDERO CID, P. ARANDA, PILAR, E. RUIZ-HITZKY, P. OCON, R. CHTOUROU, "Amelioration of PEMFC performance at high temperature by incorporation of nanofiller (sepiolite/layered double hydroxide) in Nafion membrane". **International Journal of Hydrogen Energy.** 44, 10666 - 10676. (2019). ISSN 0360-3199, ISSN 1879-3487

- 289.E. RUIZ-HITZKY, P. ARANDA, M. AKKARI, MARWA; N. KHAORAPAPONG, M. OGAWA, "Photoactivenanoarchitectures based on clays incorporating TiO₂ and ZnO nanoparticles". **Beilstein Journal of Nanotechnology**. 10, 1140 – 1156 (2019). ISSN 2190-4286
- 290.J. PEREZ-CARVAJAL, P. ARANDA, C. BOISSIERE, CEDRIC; C. SANCHEZ, E. RUIZ-HITZKY, Interdiffusive Surfactant Procedure for the Preparation of Nanoarchitected Porous Films: Application to the Growth of Titania Thin Films on Silicon Substrates". **Langmuir**. 35, 7169 – 7174 (2019).
- 291.G.LO DICO, B. WICKLEIN, L. LISUZZO, G. LAZZARA, P. ARANDA E. RUIZ-HITZKY, "Multicomponentnanocomposites based on clay nanoarchitectures for electrochemical devices. **Beilstein Journal of Nanotechnology**. 10, 1303 – 1315 (2019). ISSN 2190-4286
- 292.P. ARANDA, E. RUIZ-HITZKY "Improving the Impact Factor of Recent Patents on Nanotechnology". **Recent Patents on Nanotechnology**. 14, 2 (2020). ISSN 1872-2105, ISSN 2212-4020
- 293.P. ARANDA, B. WICKLEIN, C. RUIZ-GARCIA, R. MARTIN-SAMPEDRO, M. DARDER, G. DEL REAL, E. RUIZ-HITZKY, "Research and Patents on Coronavirus and COVID-19: A Review". **Recent Patents on Nanotechnology**. 14, 328 – 350 (2020). ISSN 1872-2105, ISSN 2212-4020
- 294.A.C.S ALCANTARA, M. DARDER, P. ARANDA, PILAR; E. RUIZ-HITZKY, "Zein-Layered Hydroxide Biohybrids: Strategies of Synthesis and Characterization". **Materials**. 13 (2020). ISSN 1996-1944
- 295.L. LISUZZO, B. WICKLEIN, G. LO DICO, GIULIA; G. LAZZARA, G. DEL REAL, P. ARANDA, E. RUIZ-HITZKY, "FUNCTIONAL BIOHYBRID MATERIALS BASED ON HALLOYSITE, SEPIOLITE and cellulose nanofibers for health applications". **Dalton Transactions**. 49, 3830 – 3840 (2020). ISSN 1477-9226, ISSN 1477-923
- 296.P. REBITSKI, M. DARDER, R. CARRARO, P. ARANDA, E. RUIZ-HITZKY, "Chitosan and pectin core-shell beads encapsulating metformin-clay intercalation compounds for controlled delivery" **New Journal of Chemistry**. 44, 10102 – 10110 (2020) ISSN 1144-0546, ISSN 1369-9261
- 297.E. RUIZ-HITZKY, M. DARDER, B. WICKLEIN, C. RUIZ-GARCIA, R. MARTIN-SAMPEDRO, G. DEL REAL, P. ARANDA "Nanotechnology Responses to COVID-19". **Advanced Healthcare Materials**. 9 (2020). ISSN 2192-2640, ISSN 2192-265
- 298.A. BARRA, J. SANTOS, M.R.F. SILVA, , C. NUNES, E. RUIZ-HITZKY, I. GONÇALVES, S. YILDIRIM, P. MARQUES, P. FERREIRA "Graphene Derivatives in Biopolymer-Based Composites for Food Packaging Applications". **Nanomaterials**. 10 (2020), ISSN 2079-4991
- 299.N. BOUKHALFA, M. DARDER, M. BOUTAHALA, P. ARANDA, E. RUIZ-HITZKY, "Composite Nanoarchitectonics: Alginate Beads Encapsulating Sepiolite/Magnetite/Prussian Blue for Removal of Cesium Ions from Water". **Bulletin of the Chemical Society of Japan**. 94, 122 – 132 (2021). ISSN 0009-2673, ISSN 1348-0634
- 300.A. BARRA, O. LAZAR, A. PANTAZI, M.J. HORTIGUELA, G. OTERO-IRURUETA, M. ENACHESCU, E. RUIZ-HITZKY, C. NUNES, P. FERREIRA, "Joining Caffeic Acid and Hydrothermal Treatment to Produce Environmentally Benign Highly Reduced Graphene Oxide". **Nanomaterials**. 11 – 3 (2021), ISSN 2079-4991
- 301.A. SANGUANWONG, A.E. FLOOD, M. OGAWA, R. MARTIN-SAMPEDRO, M. DARDER, B. WICKLEIN, P. ARANDA, E. RUIZ-HITZKY, "Hydrophobic composite foams based on nanocellulose-sepiolite for oil sorption applications". **Journal of Hazardous Materials**. 417 (2021). ISSN 0304-3894, ISSN 1873-3336

- 302.Z. WU, W.DENG, S. TANG, E. RUIZ-HITZKY, J. LUO, X. WANG, "Pod-inspired MXene/porous carbon microspheres with ultrahigh adsorption capacity towards crystal violet. **Chemical Engineering Journal**. 426 (2021). ISSN 1385-8947, ISSN 1873-3212
- 303.E. RUIZ-HITZKY, C. RUIZ-GARCIA, F.M. FERNANDES, G. LO DICO, L. LISUZZO, V. PREVOT, M. DARDER, P. ARANDA, "Sepiolite-Hydrogels: Synthesis by Ultrasound Irradiation and Their Use for the Preparation of Functional Clay-Based Nanoarchitected Materials". **Frontiers in Chemistry**. 9, (2021). ISSN 2296-2646.
- 304.M. DARDER, J. HE, L. CHARLET, E. RUIZ-HITZKY, P. ARANDA, "Gentamicin-Montmorillonite Intercalation Compounds as an Active Component of Hydroxypropylmethylcellulose Bionanocomposite Films with Antimicrobial Properties" **Clays & Clay Minerals**, 69, 576-588, (2021); DOI: 10.1007/s42860-021-00156-3
- 305.A. BARRA, C. NUNES, E. RUIZ-HITZKY, P. FERREIRA, "Green Carbon Nanostructures for Functional Composite Materials" **International Journal of Molecular Sciences**, 23, 1848 (2022) ; DOI: 10.3390/ijms23031848
- 306.R. MARTIN-SAMPEDRO, M.E. EUGENIO, D. IBARRA, E. RUIZ-HITZKY, P. ARANDA, M. DARDER, "Tailoring the properties of nanocellulose-sepiolite hybrid nanopapers by varying the nanocellulose type and clay content" **Cellulose**, 29, 5265-5287 (2022) DOI10.1007/s10570-022-04565-y
- 307.CASTRO SMIRNOV, FIDEL ANTONIO; LÓPEZ, BERNARD S.; RAGU, SANDRINE; DARDILLAC, ELODIE; RUIZ HITZKY, EDUARDO; ARANDA, PILAR; PIÉTREMENT, OLIVIER; GUZMÁN MARTÍNEZ, FERNANDO; ADAME BROOKS, DAVID; RÉMI BERTRAND, JEAN; AYACHE, JEANNE; LE CAM, ERIC. "Nanoportadores para transfección de ácidos nucleicos y aplicaciones biotecnológicas; Nanocarriers for nucleic acids transfection and biotechnological applications". **Anales de la Academia de Ciencias de Cuba**. 12 - 2, pp. e1156. 01/08/2022. ISSN 2304-0106
- 308.S. LI, B. GU, BIN; X. LI, S. TANG, L. ZHENG, E. RUIZ-HITZKY, Z. SUN, C. XU, X. WANG, "MXene-Enhanced Chitin Composite Sponges with Antibacterial and Hemostatic Activity for Wound Healing" **Advanced Healthcare Materials**., 11, 2102367 (2022); DOI: 10.1002/adhm.202102367
- 309.TANG, SHUWEI; WU, ZHENGGUO; LI, XIAOYUN; XIE, FENGWEI; YE, DONGDONG; RUIZ-HITZKY, EDUARDO; WEI, LANSHENG; WANG, XIAOYING. "Nacre-inspired biodegradable nanocellulose/MXene/AgNPs films with high strength and superior gas barrier properties." **Carbohydrate Polymers**. 299, N° 120204 (2022). DOI 10.1016/j.carbpol.2022.120204
- 310.ANA I. RUIZ, CRISTINA RUIZ-GARCÍA, EDUARDO RUIZ-HITZKY, From old to new inorganic materials for advanced applications: The paradigmatic example of the sepiolite clay mineral, **Applied Clay Science**, 235, N° 106874 (2023), DOI: <https://doi.org/10.1016/j.clay.2023.106874>.
- 311.BROOKS, DAVID ADAME; PIETREMENT, OLIVIER; DARDILLAC, ELODIE; JAYANTHA, AYESHA; GUEVARA, MANUEL A. LORES; CASTRO-SMIRNOV, FIDEL ANTONIO; ARANDA, PILAR; RUIZ-HITZKY, EDUARDO; LOPEZ, BERNARD S "Impact of Increased Sonication-Induced Dispersion of Sepiolite on Its Interaction with Biological Macromolecules and Toxicity/Proliferation in Human Cells" **ACS Omega**. 8 - 1, 1026 – 1036 (2023) DOI10.1021/acsomega.2c06391
- 312.MARTIN-MORALES, CELIA; FERNANDEZ-MENDEZ, JORGE; ARANDA, PILAR; RUIZ-HITZKY, EDUARDO. "Nanoarchitectonics to entrap living cells in silica-based systems: encapsulations with yolk-shell and sepiolite nanomaterials. **Beilstein J. Nanotech**. 14, 522 – 534 (2023).

313. MARTIN-SAMPEDRO, RAQUEL; ARANDA, PILAR; DEL REAL, GUSTAVO; RUIZ-HITZKY, EDUARDO; DARDER, MARGARITA. "Effect of the combined addition of ultrasonicated kraft lignin and montmorillonite on hydroxypropyl methylcellulose bionanocomposites". **Nanoscale Adv.** **5**, 4107 – 4123 (2023)
314. ALCANTARA, ANA C. S.; GONZALEZ-ALFARO, YOREXIS; DARDER, MARGARITA; RUIZ-HITZKY, EDUARDO; ARANDA, PILAR. "Magnetite-sepiolite nanoarchitectonics for improving zein-based bionanocomposite foams". **Dalton Transac.** **52**, 16951 – 16962 (2023).
315. RUIZ-HITZKY, EDUARDO; RUIZ-GARCIA, CRISTINA. "MXenes vs clays: emerging and traditional 2D layered nanoarchitectonics". **Nanoscale.** **15**, 18959 - 18979 (2023).
316. ALBUERNE-TORRES, S.; GARCIA-ZALDIVAR, O.; ALVAREZ-DELGADO, A.; BROWN-GOMEZ, A.; ARANDA, P.; RUIZ-HITZKY, E.; GONZALEZ-ALFARO, Y. "Modification of sugarcane bagasse derivatives with superparamagnetic iron oxide nanoparticles for the extraction of hydrocarbons". **Rev. Cub. Fisica.** **40**, 78 – 84(2023).
317. RUIZ-HITZKY, EDUARDO; RUIZ-GARCIA, CRISTINA; WANG, XIAOYING. "MXenes and Clay Minerals in the Framework of the 2D Organic-Inorganic Hybrid Nanomaterials". **Chem. Mater.** **35**, 10295 – 10315 (2023).
318. RUIZ-HITZKY, EDUARDO; RUIZ-GARCIA, CRISTINA. Correction: MXenes vs. clays: emerging and traditional 2D layered nanoarchitectonics. **Nanoscale.** **15**, 19821 (2023).
319. BARRA, ANA; WYCHOWANIEC, JACEK K.; WINNING, DANIELLE; CRUZ, MARIA MARGARIDA; FERREIRA, LILIANA P.; RODRIGUEZ, BRIAN J.; OLIVEIRA, HELENA; RUIZ-HITZKY, EDUARDO; NUNES, CLAUDIA; BROUGHAM, DERMOT F.; FERREIRA, PAULA. "Magnetic Chitosan Bionanocomposite Films as a Versatile Platform for Biomedical Hyperthermia". **Adv. Healthcare Mater.** (2023) 2303861 (<https://doi.org/10.1002/adhm.202303861>).
320. BARRA, ANA; LAZAR, OANA; MIHAI, GEANINA; BRATU, CATALINA; RUIZ-GARCIA, CRISTINA; DARDER, MARGARITA; ARANDA, PILAR; ENACHESCU, MARIUS; NUNES, CLAUDIA; FERREIRA, PAULA; RUIZ-HITZKY, EDUARDO. Graphene-like materials supported on sepiolite clay synthesized at relatively low temperature. **Carbon**, (2024), **218**, 118767 (<https://doi.org/10.1016/j.carbon.2023.118767>).

Editorial Activities

-
- 2009-2020 Editor-in-Chief of **Recent Patents on Nanotechnology Journal** (Bentham, ISI WEB IF= 1.3)
 - 2010-2022 Associated Editor of **Currents in NanoScience Journal** (Bentham, ISI WEB IF= ca.2)
 - 2018 Guest Editor (with B. Wicklein as co-editor) of the Special Issue "Functional Organic-Inorganic Hybrid Materials", in **Advanced Functional Materials**, Vol. 28, Issue 27 (2018).
 - 2013 Guest Editor of the Themed Issue on "Progress in Bionanocomposites: From green plastics to biomedical Applications", in **Progress in Polymer Science** volume 38, issues 10-11 (2013)
 - 2011 Guest Editor of the Special Issue "Materials Science in Madrid", in **Advanced Materials** Vol. 23, Issue 44, (November 23, 2011) from page 5115
 - 2007 Co-Editor (with K. Ariga & Y. Lvov) of the book: "**Bio-inorganic Hybrid Nanomaterials: Strategies, Syntheses, Characterization and Applications**", Wiley-VCH, Weinheim, 2007 (ISBN 978-3-527-31718-9)
 - 2006 Guest co-Editor (with M. Darder) of the Special Issue "Trends in Bio-hybrid Nanostructured Materials", in **Current Nanoscience** Vol. 2, Issue 3, (2006), pp. 153-294.
 - P. Yuan, F. Bergaya, V. Prévot, P. Aranda, J. Bujdak, J.F. Lambert, A. Thill, L. Michot, C. Tournassat, J. Breu, G. Carja, I. Daniel, P. Davidson, E. Ferrage, C. Forano, J. Greathouse, C. Greenwell, J. Hao, Y. Ide, J. Kawamata, P. Launois, P. Levitz, N. Miyamoto, T. Nakato, J.-C. Robinet, E. Ruiz-Hitzky, L. Setti-Belaroui, "Preface: Special issue for the conference of Euroclay 2019 (SI-Euroclay 2019)", *Applied Clay Science* 199, 105892 (2020) DOI: <https://doi.org/10.1016/j.clay.2020.105892> (Guest Editors)

PARTICIPATION IN RESEARCH CONTRACTS OF SPECIAL RELEVANCE WITH COMPANIES AND/OR PRIVATE OR PUBLIC FUNDING BODIES (only last 30 years)

1. Non-disclosed title (confidential). Project OTiO2. European Central Bank and National Bank of Spain (Banco de España) Leader: Prof. Eduardo Ruiz-Hitzky, 2023-2025.
2. Non-disclosed title (confidential). Project OL2. European Central Bank and National Bank of Spain (Banco de España) Leader: Prof. Eduardo Ruiz-Hitzky, 2018-2022.
3. “Estudio de sepiolitas para aplicaciones reológicas” (34 months). Sepiolsa-CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky, 2014-2017.
4. “Adsorptive materials for big scale separation processes” (43 months). Süd-Chemie, (now **Clariant-Germany**) – CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky, (2010-2011); Dr. Pilar Aranda (2011-2014).
5. “Characterization and application test of synthetic clay” (28 months). **Company ShayoNano Singapore Pte Ltd**-CSIC Contract, Leader: Dr. Pilar Aranda, 2008-2010.
6. “Nanocomposites with advanced mechanical properties” (12 months). **Airbus S.L.**-Universidad Carlos III de Madrid Contract, Leader: Prof. Juan Baselga Llidó, (leader at the ICMM-CSIC: Prof. Eduardo Ruiz-Hitzky), 2006-2007.
7. “Assays to confine and immobilize dye molecules in porous materials” (6 months). **Kansai Paint Ltd.** (Japan) Co.-CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky, 2004.
8. “Estudio de mercaptanos en sepiolita y desarrollo de materiales desodorantes y autocontrolables” (39 months). **TOLSA S.A.**-CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky, 2001/2004.
9. “Preparación y caracterización de muestras de esmectitas férricas” (12 months). **TOLSA S.A.**-CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky, 1998/1999
10. “Evaluación de la capacidad desodorante de sepiolita y de otros minerales adsorbentes” (12 months). **TOLSA S.A.**-CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky, 1998/1999
11. “Materiales arcillosos de naturaleza esmectítica de alta densidad de carga” (6 months). **TOLSA S.A.**-CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky, 1997-1998
12. “Caracterización y estudio de propiedades de superficie de materiales esmectíticos asociados a sepiolita” . (12 months). **TOLSA S.A.**-CSIC Contract, Leader: Prof. Eduardo Ruiz-Hitzky 1993/1994.

PATENTS AND UTILITY MODELS (only since 1985)

1. J. Santaren, B. Casal, R. Pérez, A. Alvarez, E. Ruiz-Hitzky, “Process for manufacturing organophyllic fibrous clays” Holder: TOLSA S.A.; European Patent: 858 302 64.9; Year: 1985 (under exploitation)

2. J. Santaren, B. Casal, R. Pérez, A. Alvarez, E. Ruiz-Hitzky, "Procedimiento de preparación de arcillas-organofílicas", Holder: TOLSA S.A.; Spanish Patent: 535.316; Year: 1984 (under exploitation)
3. G. Almendros Martín, B. Casal, E. Ruiz-Hitzky, "Procedimiento de elaboración de intercambiadores catiónicos de tipo sulfónico a partir de residuos lignocelulósicos"; Holder: CSIC, Spanish Patent: 8701591; Year: 1987
4. E. Ruiz-Hitzky, B. Casal, L. Lami, A. Alvarez, "Procedimiento de obtención en fase seca del ácido 2,4 diclorofenoxiacético (2,4-D)"; Holder CSIC (Spain) and ICIDCA (Cuba); Spanish Patent: 9601359; Year: 1996
5. E. Ruiz-Hitzky, M.J. Muñoz-Aguado, "Procedimiento de atrapamiento de ácidos mediante desarrollo de un sistema gelificado de base silícica", Holder: CSIC; Spanish Patent: 9800835, Year: 1998
6. E. Ruiz-Hitzky, J.C. Galván, P. Aranda, A. Jiménez-Morales, "Electrodos para el reconocimiento electroquímico de especies iónicas o moleculares basados en membranas polisiloxánicas"; Holder: CSIC; Spanish Patent, P. 9900956 (7/05/1999). Published 2160052 (16/10/2001).
7. P. Aranda, R. Salvador, E. Ruiz-Hitzky, A. Alvarez, I. Duch, F. de Juan, "Sistema indicador en fase soportada para detección de compuestos sulfurados del tipo de los mercaptanos y otras moléculas con grupos tioles origen de malos olores"; Holder: CSIC; Spanish Patent P. 200402189 (14/09/2004). Published: ES 2 259 514 B1 (01/11/2007).
8. E. Ruiz-Hitzky, P. Aranda, A. Gómez-Avilés, "Materiales composites micro- y nano-estructurados basados en hidróxidos dobles laminares de tipo hidrotalcita y silicatos de la familia de las arcillas"; Holder: CSIC. Spanish Patent P. 200803642 (22/12/2008) & PCT: ES2009/070535 (27/11/2009). "Micro- and nano-structured composite materials based on laminar double hydroxides of hydrotalcite type and silicates of the clay family"; Holder: CSIC. European Patent EP09834157.1 (15/07/2011) Option for Exclusive Licence to Süd-Chemie (Germany)/ Clariant (Switzerland).
9. E. Ruiz-Hitzky, P. Aranda, M. Darder, F.M. Moreira Martins Fernandes, C.R. Santos Matos, "Espumas rígidas de tipo composite basadas en biopolímeros combinados con arcillas fibrosas y su método de preparación"; Holder: CSIC. Spanish Patent P. 200900104 (14/01/2009) & PCT: ES2009/070542 (01/12/2009).
10. E. Ruiz-Hitzky, P. Aranda, M. Darder, A.C. Santos de Alcântara, "Materiales composites basados en bio-híbridos zeína-arcilla, su procedimiento de obtención y usos de estos materiales"; Holder: CSIC. Spanish Patent: P. 200930326 (17/06/2009); & PCT: ES2010/070404 (16/06/2010).
11. E. Ruiz-Hitzky, F. M. Moreira Martins Fernandes, "Uso de arcillas fibrosas como coadyuvantes para mejorar la dispersion y estabilidad coloidal de nanotubos de carbono en medios hidrofílicos"; Holder: CSIC. Spanish Patent: P200931135 (09/12/2009)
12. E. Ruiz-Hitzky, F.M. Fernandes, "Uso uso de arcillas fibrosas como coadyuvantes para mejorar la dispersión y estabilidad coloidal de materiales filamentosos de carbono en medios hidrofílicos"; Holder: CSIC. PCT ES2010/070809 (07/12/2010).
13. E. Ruiz-Hitzky, P. Aranda, Y. González-Alfaro, "Procedimiento de obtención de materiales con comportamiento superparamagnetico"; Holder: CSIC; Spanish Patent: P.201030333 (08/03/2010). PCT: ES2011/070145 (Ref. WO/2011/110711) (under exploitation: licensed to the NANOBIO MATTERS company on the 8th November 2011) Extended (in progress) to EU, Australia, USA, Japan, Brazil, Chile, AEU, Mexico, Canada, Colombia, India, China, Russia.

14. E. Ruiz-Hitzky, F. M. Moreira Martins Fernandes, "Composición de material carbonoso obtenible por carbonización de un biopolímero soportado sobre arcilla "; Holder: CSIC. Spanish Pat. P201130835 (23/05/2011); PCT/ES2012/070362 (22/05/2012).
15. E. Ruiz-Hitzky, P. Aranda, M. Darder, Y. González-Alfaro, "Procedimiento de preparación de materiales con propiedades superparamagnéticas para la extracción de iones cesio en medio acuoso, material obtenido y utilización"; Holder: CSIC; Spanish patent: P. 201330062 (21/01/2013).
16. C. Ruiz-García, P. Aranda, Francisco M. Fernandes, E. Ruiz-Hitzky, "Procedimiento de preparación de xerogeles de sepiolita, productos obtenidos y utilización"; Holder: CSIC; Spanish Patent: P. 201330615 (29/04/2013); PCT: ES2014/070375 (29/04/2014). Licensed to the NANOBiomatters company on June 2014.
17. B. Lebental, B. Ghaddab, V. Gaudefroy, E. Ruiz-Hitzky, P. Aranda, C. Ruiz-García, B. Hennings, "Dispositif d'acquisition, procédé de fabrication de celui-ci, procédé de mesure de force", Holders: IFSTTAR-CSIC; French Patent: FR20140052842 (31/03/2014); PCT: FR2015/050805 (27/03/2015). Published WO 2015/150676A1 (08/10/2015).
18. E. Ruiz-Hitzky, P. Aranda, M. Darder, M.M. González del Campo, "Material composite de nanocelulosa y arcillas fibrosas, procedimiento de fabricación y uso"; Holder: CSIC; Spanish Patent: P.201431000 (3/07/2014).
19. F.A. Castro Smirnov, B.S. Lopez, E. Ruiz-Hitzky, P. Aranda, "Method for transfecting eukaryotic cells using sepiolite fibres"; Holder: Institut Gustave Roussy; Eur. Patent: 14306619.9-1410 (14/10/2014).
20. F.A. Castro Smirnov, B.S. Lopez, O. Pietrement, E. Ruiz-Hitzky, P. Aranda, "Method for extracting DNA using sepiolite fibres"; Holder: Institut Gustave Roussy; Eur. Patent: 14306621.5-1406 (14/10/2014).
21. A. Kocjan, B. Wicklein, E. Ruiz-Hitzky, "Electro-conductive reinforced engineering ceramics and preparation therefore"; Holders: CSIC & JSI (Slovenia); UK IPO N°: 1618594.4 (4/11/2016) and PCT (2017)
22. A. Barra, E. Ruiz-Hitzky, C. Nunes, P. Ferreira, "Electrically conductive biocomposite formulation: production method and uses thereof", Holders: CSIC & CICECO (U.Aveiro, Portugal). -Provisory Patent No. 118976 (2023).

- **STAYS IN FOREIGN CENTRES**

- 1971-1974: PhD fellow at the "Laboratoire de Physico-Chimie Minérale", University of Louvain (UCL, Belgium), "Study of grafting reactions of organic groups on mineral surfaces" (Supervisor: Prof. J.J. Fripiat)
- 1972 : "Laboratoire de Physique et Chimie des Hauts Polymères", University of Louvain (Belgium), "Reinforcement of elastomers by incorporation of organomineral solids", (Prof. J. Mercier)
- 1976 : postdoctoral fellow at the "Institut für Anorganische Chemie", University of Kiel (Germany), "Grafting of lamellar silicic acids" (Prof. G. Lagaly)
- 1973-86 : 12 weeks (total stage), "Centre de Recherche sur les Solides à Organisation Cristalline Imperfaite", CNRS, Orleans (France), "Surface properties and photocatalysis on organo/inorganic supports" (Prof. H. Van Damme)
- 1984-86 : 4 weeks (total stage) , Department of Chemistry, University of Antwerpen, (Belgium), "Application of LAMMA technique to study organo-inorganic solids" (Prof. F.C. Adams)

- 1987 : Full Professor at the University of Paris-Sud, Orsay, Paris (France), "Organic reactions using inorganic supports" (Prof. G. Bram)
- 1993-1996 : 8 weeks (total stages), Universidad de Chile (Santiago) and Universidad Católica del Norte (Antofagasta), under the Program of Scientific Exchange, "Lithium insertion into inorganic matrices" (Prof. G. González and Prof. J. Llanos)
- 1995-1999 :10 weeks (total stage), Universidad de La Habana (Cuba) and ICIDCA (Institute for Research on Sugar Cane and Derivatives" (Cuba) "Synthesis of herbicides using supported phases" (Prof. J. Llopiz and Dr. A. Alvarez)
- 2011: 2 months as Invited Researcher at the « Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux »(IFSTTAR), Paris, « Geopolymers » (Prof. H. Van Damme).
- 2011: 3 months as Invited Professor at the Collège de France (Paris) having in charge a set of courses on "Hybrid and biohybrid materials" and research activities on "MOFs-clay materials" (Prof. C. Sanchez).
- 2015: 3 months as Senior Invited Researcher at the Laboratory National of Nanotechnology (LNNano), CNPEM, Campinas (Brazil)

RELEVANT PRESENTATIONS IN CONGRESSES

- **Invited Lectures & Conferences:**

Selection of the most Relevant Conferences & Plenary Lectures (only last 20 years)

- The Royal Society of Chemistry, Materials Discussion 3: Inorganic Materials, Cambridge (UK), 2000 (invited lecture)
- XXII Reunión del Grupo Especializado de Electroquímica de la RSEQ, San Sebastián (Spain), 2000 (invited lecture)
- 6th FIGIPS Meeting in Inorganic Chemistry, Barcelona (Spain), 2001 (invited lecture)
- XVI Reunión Científica de la Sociedad Española de Arcillas, Baeza (Jaén, Spain), 2001 (invited lecture)
- III Taller Iberoamericano sobre Ciencia e Ingeniería de Materiales (TIECIM'02), Madrid (Spain), 2002. (invited lecture)
- 2^{ème} Colloque du Groupe Français des Argiles (GFA), Orléans (France) 2003 (invited lecture)
- International Symposium on Nanotechnology and Materials for the Environment, Yokohama (Japan) 2003 (opening lecture)

Nota: Si necesita más casos, añádalos utilizando las funciones de copiar y pegar con el 2º caso.

- 12 Ostwald Kolloquium (Honouring Prof. G. Lagaly), Kiel (Germany), 2004 (invited lecture)
 - 13th International Clay Conference, Tokyo (Japan), 2005 (invited lecture)
 - International Symposium of Physic and Chemistry of Smectites, Tokyo, 2005 (invited lecture)
 - Spanish-Japanese Symposium on Advanced Hybrid Materials based on Clays, Nagoya (Japan), 2005
 - E-MRS Symposium on Synthesis, Characterization and Applications of Mesostructured Thin Layers, Estrasburgo 2005 (Chair of Symposium)
 - Polymer-Clay Nanocomposites Workshop in the Joint Meeting Groupe Français des Argiles & The Clay Minerals Society, Poitiers 2006 (invited lecture)
 - 3rd Mid-European Clay Conference, Opatija 2006 (opening lecture)
 - XIV International Sol-Gel Conference, Montpellier 2007 (invited lecture)
 - Colloque du Groupement Français des Argiles, Groupement Français d'Étude et d'Applications des Polymers et la Société Française de Chimie sobre "Charges lamellaires et nanocomposites: où en est-on?", Lyon 2007 (invited communication)
 - 4th World Congress on Biomimetic, Artificial Muscles and Nano-Bio, Cartagena 2007 (invited communication)
 - Max Bergmann Symposium 2008, Dresden (keynote)
 - 3rd NanoAfrica, Pretoria 2009 (invited lecture)
 - 14th International Clay Conference, Castellaneta Marina 2009 (June 2009) (invited lecture)
 - Symposium on Sepiolite of the 2010TMC , Seville 2010 (invited lecture)
 - General Meeting of the 2010TMC, Seville 2010 (invited lecture)
 - 3rd International Seminar on Nanosciences and Nanotechnologies, La Habana 2010 (invited lecture)
 - Matériaux 2010, Nantes 2010 (invited introductory lecture)
 - Técnicas de caracterización de nanocompuestos y nanomateriales, Paterna (Valencia), 2010, (invited lecture)
 - Graduate School of Creative Science and Engineering, University of Waseda, Tokyo 2011 (invited lecture)
 - 5th Waseda GCOE International Symposium on "Practical Chemical Wisdom" Tokyo 2011 (plenary lecture)
 - Training school on "Synthesis of hybrid organic-inorganic nanoparticles for innovative nanostructured composites" Napoli, 2011 (invited lecture)
 - Second International Conference on Multifunctional, Hybrid and Nanomaterials, to be held in Strasbourg, 2011 (invited lecture)
 - 241st National Meeting on The American Chemical Society, held in Anaheim, USA, 2011 (invited lecture)
 - E-MRS 2011 Spring & Bilateral Meeting, held in Nice, 2011 (invited plenary lecture)
-

- 3rd International Workshop on Polymer Engineering and Processing, and 2nd Seminar of the Research Center for Highly Environmental and Recyclable Polymers, JAIST, Japan, 2011 (Invited Conference)
- Foro Ruso-Español de Innovación, Madrid (Spain) 2011 (Invited Lecture)
- Cafés Científicos del CSIC en la Expoquimia 2011, Barcelona (Spain) 2011 (Invited Lecture)
- XII Rencontre Marocaine sur la Chimie de l'Etat Solide (REMCES'XII), Casablanca (Morocco) 2012 (Invited Conference)
- 15^a Reunión Bienal del Grupo Especializado de Química Inorgánica y 9^a Reunión Bienal del Grupo Especializado de Química del Estado Sólido de la RSEQ, Girona (Spain) 2012 (Invited Conference).
- E-MRS 2012 Spring Meeting, Strasbourg (France) 2012 (Invited Conference).
- 2nd Asian Clay Conference, Seoul (South Korea) 2012 (Plenary Inaugural Conference)
- SPIE Nanosystems in Engineering and Medicine, Incheon (South Korea) 2012 (Invited Conference).
- 245th ACS National Meeting, New Orleans (USA), 2013 (Invited Conference)
- XVII International Sol-Gel Conference, Madrid (Spain) 2013 (Invited Lecture)
- Workshop EU COST Program MP1202 on "The interface in hybrid and biohybrid materials" Madrid (Spain) 2013 (Invited Conference)
- TNT 2013, Seville (Spain) 2013 (Invited Conference)
- 1^{er} Workshop de Nanoarcillas y sus aplicaciones, La Plata (Argentina) 2013 (Invited Conference)
- PACCON2014 Conference, Khon Kaen (Thailand) 2014 (Invited Conference)
- Symposium for Green-Innovation Polymers (GRIP 2014) & the 13th Symposium of the Research Center for Highly Environmental and Recyclable Polymers Kanazawa (Japan)
- NANOSTRUC2014, Madrid (Spain) 2014 (Invited Inaugural Conference)
- Workshop on Materials and Catalysis for Clean Energy 2014 (Málaga, Spain)
- Fourth International Conference on Multifunctional, Hybrid and Nanomaterials, 2015 (Sitges, Spain) (Invited Keynote)
- 1^o Reuniao sobre Argilas Aplicadas, 2015 (Natal, Brazil) (Plenary Lecture)
- International Conference on Applied Mineralogy & Advanced Materials AMAM 2015, Castellaneta Marina (Italy) (Invited Conference)
- Euroclay 2015 (Edinburg, UK)
- GRAPCHINA 2015, 2015 (Qingdao, China)
- 5th Asian Symposium on Advanced Materials: Chemistry, Physics & Biomedicine of Functional and Novel Materials (ASAM-5), 2015 (Busan, South Korea) (Invited Conference)
- PACCON2016, Bangkok 2016 (Keynote)

- Vidyasirimedhi Institute of Science and Technology (VISTEC)Symposium on Hybrids and biohybrids: past, present and future, Rayong (Thailand) 2016 (Invited Conference)
-
- 251st ACS National Meeting & Exposition "Symposium on Clay/Polymer Composites-3: Nanoclays and Other Natural Nanoparticles", San Diego, USA, 2016
- NANOTECH France 2016 "Joint Symposium on on Functional Hybrids and Clay Nanomaterials", Paris, France 2016
- Middle Europe Clay Conference MECC 2016, Kosice (Slovakia) (Plenary Lecture)
- International Symposium on Macroporous Materials 2016, Paris, France (Invited Conference)
- Colloque Carbones et Materiaux Carbonés: du Design aux Applications 2017, Paris, France (Invited Conference)
- Plenary Lecture at the XVI Internat. Clay Conference 2017, Granada, Spain (Plenary Lecture)
- 30th Fall Meeting of the Ceramic Society of Japan, Kobe 2017 (Invited Conference)
- 2017 Annual Meeting of the Clay Science Society of Japan, Toyama 2017 (Invited Conference)
- The 3rd Symposium of the Center for Nature-derived Materials (Excellent Core) & to The 4th International Symposium for Green-Innovation Polymers (GRIP2017), JAIST, Ishikawa 2017 (Plenary Lecture)
- 4th China International Composites Technology Conference (CCCM-4) Zhuhai (Guangdong, China) 2019 (keynote)
- FULLBRIGTH ASSOCIATION, Spain, On line 2020 (Invited Conference)
- IMAGINENANO 2020, Bilbao, Spain (keynote)
- NanoSpain Conference 2023, Tarragona, Spain (Invited Conference)

Selection of relevant Invited Lectures at Universities and Research Centres (only since 2010)

- Open Conferences of the Collège de France, Paris (France) 2011 (4 Invited Lectures)
- Argonne National Laboratory, held in Argonne, Illinois, 2011 (Invited General Lecture)
- Department of Chemistry, Michigan State University, held in East Lansing, Michigan, 2011 (invited lecture)
- Departamento de Química Inorgánica y Química Técnica, UNED, Madrid (Spain) 2011, (Invited Lecture)
- Department of Earth Sciences, Waseda University (Japan), 2012 (Invited Lecture)
- Laboratoire de Physique des Interfaces et Couches Minces, Ecole Polytechnique, Paris (France), 2012 (Invited Lecture)
- Institute Lavoisier, Université de Versailles, Saint-Quentin-en-Yvelines (France), 2013 (Invited Lecture)
- Facultad de Química, Universidad de Málaga, Málaga (Spain) 2013, (Invited Lecture)

- Institut de Minéralogie et de Physique des Milieux Condensés, Université Pierre et Marie Curie, Paris (France) 2013 (Invited Lecture)
- State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Guangzhou (China), 2014 (Invited Lecture)
- Departament of Chemistry of the Kasetsart University, Bangkok (Thailand) 2014 (Invited Lectures)
- Universidad Complutense de Madrid (Spain) 2014 (Invited Conference)
- Universidad de Córdoba (Spain) 2014 (Invited Conference)
- Cycle of 4 Seminars at the Laboratorio Nacional de Nanotecnología (LNNano) del CNPEM, Campinas (Brazil) 2015
- Seminar at the UNICAMP university, Campinas (Brazil) 2015
- Universidad de la República-KHEM, Montevideo (Uruguay), 2015
- State Key Laboratory of Chemical Resource Engineering, Faculty of Sciences, Beijing University of Chemical Technology, Beijing 2015.
- Seminar at I2CNER (Kyushu University, Japan) 2017 (Invited Conference)
- Seminar at Shizuoka University, Hamamatsu, Japan, 2017 (Invited Conference)
- Seminar at the Massachusetts Institute of Technology (MIT), Cambridge, USA (Invited Conference).

PhD THESIS SUPERVISED

- | | |
|------|--|
| 1983 | José María Rojo Martín: "Síntesis, caracterización y propiedades de superficie de ácidos silícicos laminares", Facultad de Ciencias Químicas, Universidad Complutense de Madrid; <i>sobresaliente "Cum laude"</i> . |
| 1983 | Blanca Casal Piga: "Estudio de la interacción de compuestos macrocíclicos (éteres corona y criptandos) con filosilicatos", Facultad de Ciencias Químicas, Universidad Complutense de Madrid: <i>sobresaliente "Cum laude"</i> . |
| 1989 | Antonio Aznar Jiménez: "Materiales arilsilícicos: Síntesis, caracterización y estudio de su reactividad", Facultad de Ciencias Químicas, Universidad Complutense de Madrid; <i>sobresaliente "Cum laude"</i> . |
| 1989 | Elvira Gutiérrez Vicente: "Reacciones de transposición en espacios intracristalinos de materiales inorgánicos. Activación por microondas", Facultad de Ciencias, Universidad Autónoma de Madrid: <i>apto "Cum laude"</i> . |
| 1991 | Pilar Aranda Gallego: "Materiales con propiedades de transporte iónico controladas por intercalación de compuestos oxietilénicos en filosilicatos", Facultad de Ciencias Químicas, Universidad Complutense de Madrid; <i>apto "Cum laude por unanimidad"</i> . |

- 1996 Nelson Agustin Lara Henriquez: "Síntesis, caracterización, propiedades eléctricas y de intercalación de los dicalcogenuros mixtos laminares $TaxM(1-x)S_2$ y $ZrxM(1-x)S_2$, (M=Ti,Mo). Aplicación en baterías de litio" Facultad de Ciencias Químicas, Universidad Complutense de Madrid; *apto "Cum laude"*.
- 2002 Anibal Villanueva Alvarez: "Inserción electroquímica de litio en materiales nano- y micro-estructurados: aplicación en baterías recargables ", Departamento de Física Aplicada (Facultad de Ciencias), Universidad Autónoma de Madrid por; *apto "Cum laude" por unanimidad*.
- 2003 Sadok Letaïef: "Etude des matériaux dérivés d'argiles riches en fer pour des applications avancées", Département de Chimie de la Université 7 Novembre de Bizerte (Túnez): *Mention Très Honorable, avec les félicitations orales du jury*
- 2004 Montserrat Colilla Nieto: "Sensores basados en materiales híbridos organo-inorgánicos controlados por Inteligencia Artificial: Aplicación al análisis de líquidos complejos", Departamento de Química Inorgánica (Facultad de Ciencias), Universidad Autónoma de Madrid: *sobresaliente "cum laude" por unanimidad*.
- 2005 Yodaljis Mosqueda Laffita, "Obtención, caracterización y aplicación de un nuevo material catódico, $LiNi_{0.8}Co_{0.2}O_2/PANI$, para baterías secundarias de Li", Universidad de La Habana (Cuba), December 2005. Advisors: Eduardo Pérez Cappe, Pilar Aranda and Eduardo Ruiz-Hitzky. "*Unanimidad*". Premio Nacional de Química de Cuba.
- 2007 Rocío Fernández Saavedra, "Materiales carbonosos nanoestructurados obtenidos en sólidos porosos para aplicaciones como electrodos de dispositivos electroquímicos", Universidad Autónoma de Madrid, January 2007. Advisors: Pilar Aranda and Eduardo Ruiz-Hitzky. *Sobresaliente cum laude por unanimidad*.
- 2010 Almudena Gómez Avilés, " Materiales inorgánicos micro- y nano-heteroestructurados basados en sepiolita ", Universidad Autónoma de Madrid, November 2010. Advisors: Pilar Aranda and Eduardo Ruiz-Hitzky. *Sobresaliente "cum laude"*.
- 2011 Francisco M. Moreira, "On the structural and functional properties of sepiolite in polymer-clay nanocomposites and materials derived thereof", Universidad Autónoma de Madrid, June 2011. Advisor: Eduardo Ruiz-Hitzky. *Sobresaliente "cum laude" por unanimidad*.
- 2011 Bernd Wicklein, "Bio-nanohybrid materials based on phospholipids", Universidad Autónoma de Madrid, October 2011. Advisors: Eduardo Ruiz-Hitzky, Pilar Aranda & Margarita Darder. *Sobresaliente "cum laude" por unanimidad*.
- 2014 Yamina Koriche, "Synthèse et caractérisation des bionanocomposites amidon cationique/montmorillonite: application à l'élimination de certains polluants anioniques", Université Saad Dahleb de Blida (Argelia), June 2014. Advisors: S. Semsari & E. Ruiz-Hitzky. *Très honorable avec félicitation du jury*.
- 2015 Javier Pérez Carvajal, "Estrategias *bottom-up* para la síntesis de nanoarquitecturas porosas soportadas", Universidad Autónoma de Madrid. Directores: Eduardo Ruiz-Hitzky y Pilar Aranda. Calificación: *Sobresaliente Cum Laude*
- 2016 Yorexis González Alfaro, "Ensamblado de nanopartículas de magnetita a sólidos porosos por interacción con ferrofluidos para el desarrollo de materiales multifuncionales", Universidad Autónoma de Madrid. Directores: Eduardo Ruiz-Hitzky y Pilar Aranda. Calificación: *Sobresaliente*
- 2017 María del Mar González del Campo Rodríguez-Barbero, "Desarrollo de materiales biohíbridos funcionales mediante ensamblado de nanofibras de celulosa y sepiolita", Universidad Autónoma de Madrid. Directores: Eduardo Ruiz-Hitzky, Margarita Darder y Pilar Aranda. Calificación: *Sobresaliente Cum Laude*

- 2017 Marwa Akkari, "Development of ZnO/clay porous nanostructured materials for photocatalytic degradation of emerging pollutants in wastewater", Faculty of Sciences of Bizerte, University of Carthage, Tunisia. Supervisors: Eduardo Ruiz-Hitzky and Abdessalem Ben Haj Amara: *Très honorable avec félicitation du jury*
- 2018 Nor-El-Houda Fardjaoui, "Synthèse des aluminosilicates de type géopolymères et zéolite LTA à partir des kaolins. Application à l'adsorption des métaux lourds (Cu(II), Cr(VI)) et des colorants textiles (jaune bezanyl, vert nylomine) ", Faculty of Sciences, Université 8 Mai 1945, Guelma, Algeria. Supervisors :: Eduardo Ruiz-Hitzky and Zora El Berrichi. *Très honorable*
- 2023 Ana Filipa Cardoso Barra, "Chitosan-based functional composite materials containing carbon nanostructures" Faculty of Sciences, University of Aveiro, Portugal. Supervisors: Eduardo Ruiz-Hitzky, Paula C. Ferreira, Claudia Nunes. *Aprovada com Distinção e Louvor.*

• Participation in Committees and International Representations

- Coordinator (together Prof. J.M. Serratosa) of the PEACE CAMPUS Program (European Union). The general objective of the Peace Programs of the EU was: *To contribute to the establishment of peace in the Middle East Region by creating the personal and intellectual interplay among the people of the Region through the development of R+D projects in areas of common interest.*

Countries that participated in the project coordinated by the Spanish scientists were: Egypt, Israel, Jordan, Germany, and Spain, together Palestine. The research activities developed within this Program were devoted to the development of stabilized ecologically acceptable pesticides (1993-1996).

• Editorial Boards & Committees

(Past)-member of the editorial board of the international journals

- Recent Patents on Nanotechnology: (2009-2020: Editor-in-Chief)
- Currents in NanoScience (Associated Editor)
- European Journal of Inorganic Chemistry
- The Open Inorganic Chemistry Journal
- The Open Drug Delivery Journal
- Applied Clay Science
- Clay Minerals
- Springer Series on Polymer and Composite Materials

Member of the *International Scientific Committees of* : International Conference on Chemistry of the Organic Solid State (ICCOSS IX), Como 1989; Clays & Clay Materials Science, Euroclay 95, Leuven 1995; "9th International Symposium on Intercalation Compounds" (ISIC 9), Burdeos 1995 and (ISIC 10), Osaka 1999. International Symposium on Macrocyclic Chemistry ("XXIV ISMC'99), Barcelona 1999, International Conference on Advances in Materials and Processing Technologies, Leganés 2001; 4th International Symposium on Group Five Compounds: Bicentennial Meeting, Toledo 2002; TIECIM'02, Madrid 2002, 13th International Clay Conference, Tokyo 2005; EUROCLAY, Aveiro 2007; EUROCLAY, Antalya 2011; XVII International Sol-Gel Conference, Madrid 2013; Symposium C on "Inorganic nanoarchitectonics: from design and fabrication to sustainable solutions" of the E-MRS

2014 Fall Meeting, Warsaw 2014; Mediterranean Clay Conference, İzmir-Çeşme (Turkey) 2016; 16th International Clay Conference, Granada 2017; EUROCLAY, Paris, 2019.

Member of the Technical Committees of Experts for the AITEMIN (*Asociación Española de Normalización y Certificación*, AENOR).1990-1992. Expert of AENOR 2010-11. Member of the Committee of Experts, ESF (European Science Foundation) on Nanosciences and Nanotechnologies, 2002.

Member of the Evaluation Committees of diverse research centers belonging to the CNRS (France) “Laboratoire des Matériaux Inorganiques”, CNRS-Université Blaise Pascal (Aubière) ; UMR 7574 “Materiaux Inorganiques” integrated by UPMC, ENSCP, ESPCI and Collège de France (Paris) (2000- 2020)

Experience in the organization of R&D events

Organizer of *CEA-PLS Topical Meeting on Pillared Materials: Organic Synthesis and Organo-Mineral Aspects*, 21-23 April 1994, Madrid.

Co-Organizer of the *Israeli-Spanish Workshop on: Organoclays: Structure, Properties and Uses*, 12-14 February 1995 Ein-Gedi, (Israel).

Organizer of the *EUCHEM CONFERENCE on Chemical Reactivity in Nanoporous Solids* September 1999, Miraflores de la Sierra (Spain)

Organizer of the *5TH MATERIALS DISCUSSION on Porous Materials and Molecular Intercalation*, The Royal Society of Chemistry, UK, September 2002, Madrid.

Co-Organizer of the *2005 E-MRS Spring meeting on Synthesis, Characterization and Applications of Messtructured Thin Layers*, May 31 - June 3 2005, Strasbourg.

Organizer of the *Spanish-Japanese Symposium on Advanced Hybrid Materials based on Clays*, Toyota Research Center Laboratory, August 30 2005, Nagoya.

Organizer of the *Reunión Conmemorativa del 50 Aniversario de la Sociedad Española de Arcillas*, Madrid, November 2009.

General Chair of the *American-Japanese-Spanish Trilateral Meeting on Clay Minerals*, Madrid and Seville, Spain 2010.

Local Chair of the “The Fourth International Conference on Multifunctional, Hybrid and Nanomaterials”, Sitges (Spain) 2015.

Organizer of the Symposium on Functional Polymeric Composites with Nanoclays at the International Conference on Applied Mineralogy & Advanced Materials AMAM2015, Castellaneta Marina 2015

Member of the Organizing Committee of the 10th IEEE NMDC 2015 (Nanotechnology Materials and Devices Conference), Anchorage 2015.

Co-Organizer of the Symposium on Clay/Polymer Composites-3: Nanoclays and Other Natural Nanoparticles included in the 251st ACS National Meeting & Exposition, San Diego 2016

Chair of the “Joint Symposium on on Functional Hybrids and Clay Nanomaterials” organized within the NANOTECH France 2016, Paris 2016

Chair of the “Symposium on Functional Hybrids and Composite Materials” organized within the 3rd Edition Smart Materials and Surfaces Conference and Exhibition, SMS EUROPE 2017, 26-28 April 2017, Paris.

Convenor Session on “Clay-Based Bionanocomposites: a meeting point of Life and the Mineral World” de la 16th International Clay Conference (16ICC), Granada 16-21 July 2017

Co-Director of the *Tecnologías asociadas a materiales porosos* course. Carlos III Foundation, Fondo Social Europeo and Comunidad de Madrid. 3 editions: 1995-1996.

Co-Director of the *Materiales porosos y tecnologías asociadas* course. FOCCIMAF'98 Program. Organized by CSIC, Fondo Social Europeo and Comunidad de Madrid (1998).

Co-Organizer of the Symposium on Clay/Polymer Composites-4: Nanoclays and Other Natural Nanoparticles included in the 255th ACS National Meeting & Exposition, New Orleans, LA, USA, 2018

Chair of the workshop “International Workshop on Clay Minerals in Healthcare Applications”, The Clay Minerals Society, Chantilly, VA, USA, 2021 (on line).

- **OTHER ACHIEVEMENTS**

Honours & Awards

- The STAS Prize (Academie Royale des Sciences, des Lettres et Beaux Arts de Belgique, Belgium, 1975)
- The BRUYLANTS Award (Association de Chimistes de l'Université de Louvain, Belgium, 1976),
- The ICIDCA Award (The Ministry of Sugar, Cuba, 1995)
- The Silver Distinction of the CSIC (Spain, 1995)
- The AIPEA Medal (Tokyo, 2005).
- The National Academy of Sciences Award (Cuba, 2008, 2017 & 2020)
- The GUILLAUME BUDÉ Medal (Collège de France, Paris, 2011)
- The JOSEP LLEAL Medal (Salón Internacional de la Química. Expoquimia, Barcelona 2011)
- Honorary Member of the Spanish Clay Society (SEA), Zamora Spain 2018)
- The AENTA Award (Agencia de Energía Nuclear y Tecnologías de Avanzada de Cuba 2019)
- The Clay Minerals Society Marilyn and Sturges W. Bailey Distinguished Member Award (USA, 2020)

Other relevant merits

- President of the Spanish Clay Society, SEA (2006-2010)
- Vice-President of the Spanish Clay Society, SEA (2002-2006)
- Past-President of the Spanish Clay Society, SEA (2010-2014)
- Member of the Spanish Clay Society Direction Committee (1986-1996)
- Member of the Direction Committee ("Junta de Gobierno") at the ICMM- CSIC (1987-2009)
- Member of the Direction Committee of the Inorganic Chemistry Group belonging to the Spanish Royal Society of Chemistry (1989-2013)
- Member of the Adviser Scientific Committee of ARABINNOVA (2010-2013).