Publicaciones 2020

1 E. Sánchez-Ahijón; R. Marín-Gamero; B. Molero-Sánchez; D. Ávila-Brande; A. Manjón-Sanz; M. T. Fernández-Díaz; R. Schmidt; J. Prado-Gonjal.
From Theory to Experiment: $BaFe_{0.125}Co_{0.125}Zr_{0.75}O_{3-\delta}$, a Highly Promising Cathode for Intermediate Temperature SOFCs.
Journal of Materials Chemistry A 2020, 8, 15704-15713.
https://doi.org/10.1039/C9TA12208G

2 J. Montero; D. Arenas-Esteban; D. Ávila-Brande; E. Castillo Martínez; S. Licoccia; J. Carretero-González.
From Lithium-Ion Storage in 1D and 2D Redox Active Metal-Organic Frameworks.
Electrochimica Acta 2020, 341, 136063.
https://doi.org/10.1016/j.electacta.2020.136063

3 R. Varadé López; A. Gómez Herrero; D. Ávila Brande; L. C.Otero Díaz.
Synthesis and Electron Microscopy Study of the Quaternary Misfit Layer Chalcogenides $\{(Bi,Nd)S\}_{1+\delta}CrS_2$ and $\{(Pb,Nd)Se\}_{1+\delta}(NbSe_2)_2$.
Inorganic Chemistry 2020, 59, 4508-4516.
https://doi.org/10.1021/acs.inorgchem.9b03657

4 D. Arenas Esteban; A. Guerreo Martínez; J. Carretero González; V. Birss; L. C. Otero DÍaz; D. Ávila Brande.
Tunable Supercapacitor Materials Derived from Hydrochar/Gold Nanograpes.
ACS Applied Energy Materials 2020, 3, 9348-9359.
https://doi.org/10.1021/acsaem.0c01711

5 A. Fernández-Benito; G. Rodríguez; D. Arenas-Esteban; M. Sjödin; P. Navalpotro; D. Rodríguez-Caballero; D. Ávila-Brande; M. Á.l López manchado; J. Carretero-González.
Multifunctional Metal-Free Rechargeable Polymer Composite Nanoparticles Boosted by CO2.
Materials Today Sustainability 2020, 10, 10004.
https://doi.org/10.1016/j.mtsust.2020.100048

6 A. Arenas Vivo; D. Ávila Brande; P. Horcajada Cortés.
Phase-Selective Microwave Assisted Synthesis of Iron(III) Aminoterephthalate MOFs.
Materials 2020, 13, 1469.
https://doi.org/10.3390/ma13061469

7 I. López-Quintas; E. Rebollar; D. Ávila-Brande; J. G. Izquierdo; L. Bañares; C. Díaz-Guerra; A. Urbieta; M. Castillejo; R. de Nalda; M. Martín.
Femtosecond Double-Pulse Laser Ablation and Deposition of Co-Doped ZnS Thin Films.
Nanomaterials 2020, 10, 2229.
https://doi.org/10.3390/nano10112229

8 B Özçelik, S Özçelik, H Amaveda, H Santos, CJ Borrell, R Sáez-Puche, GF de la Fuente, LA Angurel
High speed processing of NiFe2O4 spinel using a laser furnace.
Journal of Materiomics 2020, 6(4), 661-670.
https://doi.org/10.1016/j.jmat.2020.05.003

9 C Pulzara-Mora, A Pulzara-Mora, A Forero-Pico, M Ayerbe-Samaca, J Marques-Marchan, A Asenjo, NM Nemes, D Arenas, R Sáez Puche.
Structural, morphological and magnetic properties of GaSbMn/Si (111) thin films prepared by radio frequency magnetron sputtering.
Thin Solid Films 2020, 705, 137971.
https://doi.org/10.1016/j.tsf.2020.137971

10 E. Chamorro, M J. Tenorio, L. Calvo, M J. Torralvo, R.Sáez-Puche, A. Cabañas.
One-step sustainable preparation of superparamagnetic iron oxide nanoparticles supported on mesoporous SiO2.
The Journal of Supercritical Fluids 2020, 159, 104775.
https://doi.org/10.1016/j.supflu.2020.104775

11 X. M. de Irujo-Labalde, S. A. López-Paz, S. García-Martín, S., M. Á. Alario-Franco.
A far from conventional Tc-p correlation in the highly doped superconducting molybdo-cuprates: The case of Mo0.3Cu0.7Sr2TmCu2O7+δ.
Journal of Solid State Chemistry, 2020, 286, 121289.
https://doi.org/10.1016/j.jssc.2020.121289

12 V. Cascos, J. Roberts-Watts, C. Skingle, I. Levin, W. Zhang, P.S. Halasyamani, M. C. Stennett, N.C. Hyatt, E. Bousquet, E. McCabe.
Tuning between Proper and Hybrid-Improper Mechanisms for Polar Behavior in CsLn2Ti2NbO10 Dion-Jacobson Phases.
Chemistry of Materials, 2020. 32(19), 8700-8712.
https://dx.doi.org/10.1021/acs.chemmater.0c03326

13 V. Cascos, L. Troncoso, A.L. Larralde, M.T. Fernández-Diaz, J.A. Alonso.
Performance of SrCo1-xIrxO3-δ (x= 0.10 and 0.15) Perovskites as potential cathode materials for Intermediate-Temperature Solid Oxide Fuel Cells (IT-SOFC).
ACS Applied Energy Materials. 2020. 3, 6709−6716.
https://dx.doi.org/10.1021/acsaem.0c00848

14 V. Cascos, J.L. Martínez, M.T. Fernández-Díaz, J.A. Alonso.
Magnetic properties of Sr0.7R0.3CoO3-δ (R= Tb, Er and Ho) perovskites.
Journal of Alloys and Compounds, 2020. 844, 156121.
https://doi.org/10.1016/j.jallcom.2020.156121

15 V. Cascos, R. Martínez-Coronado, M.T. Fernández-Díaz, J.A. Alonso.
Topotactic Oxidation of Perovskites to Novel SrMo1-xMxO4−δ (M= Fe and Cr) Deficient Scheelite-Type Oxides.
Materials, 2020. 13(19), 4441.
https://doi.org/10.3390/ma13194441

16 P. Kayser, H. E. Johnston, M. -H Fang, D. A. Keen, R. S. Liu, and J. P. Attfield.
Correlated N/O Anion Orders in Melilite Phosphors.
Journal of Solid State Chemistry, 2020, 284.
https://doi:10.1016/j.jssc.2020.121198

17 P. Kayser, F. Orlandi, M. Avdeev, Z. Zhang, J. A. Kimpton, and B. J. Kennedy. 2020.
Structural Chemistry and Magnetic Properties of the Hexagonal Double Perovskite Ba2CoOsO6.
Inorganic Chemistry 2020, 59 (9): 6613-6622.
https://doi:10.1021/acs.inorgchem.0c00761

18 P. Kayser, F. Serrano-Sanchez, O. J. Dura, F. Fauth, and J. A. Alonso.
Experimental Corroboration of the Thermoelectric Performance of Bi2PdO4 oxide and Pb-Doped Derivatives.
Journal of Materials Chemistry C 2020, 8 (16): 5509-5516.
https://doi:10.1039/d0tc00818d

19 M. A. Laguna-Marco, M. A., E. Arias-Egido, C. Piquer, V. Cuartero, L. Hernández-López, P. Kayser, J. A. Alonso.
Magnetism of Ir5+ -Based Double Perovskites: Unraveling its Nature and the Influence of Structure.
Physical Review B 2020, 101 (1).
https://doi:10.1103/PhysRevB.101.014449

20 N.E. Massa, L. Del Campo, K. Holldack, A. Canizarès, V. Ta Phuoc, P. Kayser, and J. A. Alonso.
H-ErMnO3 Absorbance, Reflectivity, and Emissivity in the Terahertz to Mid-Infrared from 2 to 1700 K: Carrier Screening, Fröhlich Resonance, Small Polarons, and Bipolarons.
Physical Review B 2020, 102 (13).
https://doi:10.1103/PhysRevB.102.134305

21 Massa, N., Canizarès, A., del Campo, L., Holldack, K., Ta Phuoc, V., Kayser, P., & Alonso, J. (2020).
Torsional mode as order parameter in H-ErMnO3: mode screening, Fröhlich resonance, bipolarons.
Bulletin of the American Physical Society, 65.

22 E. Solana-Madruga, K. N. Alharbi, M. Herz, P. Manuel, J. P. Attfield.
Unconventional magnetism in the high pressure 'all transition metal' double perovskite Mn2NiReO6.
Chem. Commun., 2020, 56, 12574-12577.
https://doi.org/10.1039/d0cc04756b

23 S. Injac, E. Solana-Madruga, M. Andeev, H. E. A. Brand, J. P. Attfield, B. J. Kennedy.
Studies of the 4d and 5d 6H perovskites Ba3BM2O9, B = Ti, Zn, Y; M = Ru, Os, and cubic BaB1/3Ru2/3O3 polymorphs stabilised under high pressure.
Dalton Trans. 2020, 49, 12222-12233.
https://doi.org/10.1039/d0dt02349c

24 K. Ji, A. Paul, E. Solana-Madruga, , Á. M. Arévalo-López, U. V. Waghmare, J. P. Attfield.
YRuO3: A quantum weak ferromagnet.
Phys. Rev. Materials 2020, 4, 091402(R).
https://doi.org/10.1103/PhysRevMaterials.4.091402

25 C. Martin, K. Kastner, J. M. Cameron, E. Hampson, J. A. Fernandes, E. K. Gibson, D. A. Walsh, V. Sans, G. N. Newton.
Redox-active hybrid polyoxometalate-stabilised Au nanoparticles.
Angew. Chem. Int. Ed. 2020, 59, 14331-14335.
https://doi.org/10.1002/anie.202005629

26 C. Martin, I. Cano, F. Scé, R. Pérez-Aguirre, C. Gimbert-Suriñach, I. de Pedro.
Synthesis of Chiral Iron-Based Ionic Liquids: Modelling Stable Hybrid Materials.
New J. Chem. 2020, 44, 6375-6383.
https://doi.org/10.1039/D0NJ00349B

27 I. Cano, C. Martín, J. A. Fernandes, R. W. Lodge, J. Dupont, F. A. Casado-Carmona, R. Lucena, S. Cardenas, V. Sans, I. de Pedro.
Paramagnetic Ionic Liquid-Coated SiO2@Fe3O4 Nanoparticles - the Next Generation of Magnetically Recoverable Nanocatalysts Applied in the Glycolysis of PET.
App. Catal. B Environ. 2020, 260, 118110.
https://doi.org/10.1016/j.apcatb.2019.118110

28 J. Gainza, F. Serrano-Sánchez, J.E. Rodrigues, J. Prado-Gonjal, N.M. Nemes, N. Biskup, J.A. Alonso.
Unveiling the Correlation between the Crystalline Structure of M-Filled CoSb3 (M= Y, K, Sr) Skutterudites and Their Thermoelectric Transport Properties.
Adv Funct Mater, 2020. 30(36), 2001651.
https://doi.org/10.1002/adfm.202001651

29 J. Prado-Gonjal, C.A. López, R.M. Pinacca, F. Serrano-Sánchez, N.M. Nemes, O.J. Dura, J.A Alonso.
Correlation between Crystal Structure and Thermoelectric Properties of Sr1−xTi0.9Nb0.1O3−δ Ceramics.
Crystals, 2020.10(2)
https://doi.org/10.3390/cryst10020100

30 M. Smari, R. Hamdi, J. Prado-Gonjal, R. Cortés-Gil, E. Dhahri, F. Mompean, R. Schmidt
Magnetoimpedance spectroscopy of phase-separated La0.5Ca0.5MnO3 polycrystalline manganites.
Phys Chem Chem Phys, 2020. 22(20), 11625-11636.
DOI: 10.1039/D0CP00794C

31 J. Prado-Gonjal, J.Gainza, I. Aguayo, O.J. Durá, S. Rodríguez-Pérez, F. Serrano-Sánchez, M.T. Fernández-Diaz, J.A. Alonso, E. Morán
High thermoelectric performance of rapidly microwave-synthesized Sn1−δS.
Mater Adv, 2020. 1(4), 845-853.
DOI: 10.1039/D0MA00301H

32 A. Diego-Rucabado, M. T. Candela, F. Aguado, J. González, F. Rodríguez, R. Valiente, R. Martín-Rodríguez, I. Cano.
A comparative study on luminescence properties of Y2O3:Pr3+ nanocrystals prepared by different synthesis methods.
Nanomaterials 2020, 10, 1574.
https://doi.org/10.3390/nano10081574

33 P. W. N. M. van Leeuwen, I. Cano, Z. Freixa.
Secondary phosphine oxides: Bifunctional ligands in catalysis".
ChemCatChem 2020, 12, 3982-3994.
https://doi.org/10.1002/cctc.202000493

34 P. González-Izquierdo, O. Fabelo, G. Beobide, I. Cano, I. R. de Larramendi, O. Vallcorba, F. Sce, J. R. Fernández, M. T. Fernández-Díaz, I. de Pedro.
Crystal structure, magneto-structural correlation, thermal and electrical studies of an imidazolium halometallate molten salt: (trimim)[FeCl4].
RSC Advances 2020, 10, 11200-11209.
https://doi.org/10.1039/D0RA00245C

35 H. Gondal, S. Mumtaz, A. Abbaskhan, N. Mumtaz, I. Cano.
New alkoxymethyl functionalized pyridinium-based chiral ionic liquids; synthesis, characterization and properties.
Chemical Papers 2020, 74, 2951-2963.
https://doi.org/10.1007/s11696-020-01135-z

36 F. Sce, P. González-Izquierdo, I. Cano, G. Beobide, O. Fabelo, B. J. C. Vieira, J. C. Waerenborgh, O. Vallcorba, O. Castillo, I. de Pedro.
Incommensurate crystal structure, thermal expansion study and magnetic properties of (dimethylimidazolium)2[Fe2Cl6(μ-O)].
Journal of Physics - Materials 2020, 3, 015002.
https://doi.org/10.1088/2515-7639/ab423b

37 I. Cano, P. W. N. M. van Leeuwen.
In: "Recent Advances in Nanoparticle Catalysis (book series: Molecular Catalysis 1). Chapter 11 – Selective Hydrogenation of Aldehydes and Ketones", pp. 345-405.
Ed. N. Turner, C. Claver and P. W. N. M. van Leeuwen. Springer, 2020
DOI: 10.1007/978-3-030-45823-2

38 S. Mesones, E. Mena, M.J. López Muñoz, C. Adán, J. Marugán*.
Synergistic and antagonistic effects in the photoelectrocatalytic disinfection of water with TiO2 supported on activated carbon as a bipolar electrode in a novel 3D photoelectrochemical reactor.
Separation and Purification Technology 247 (2020) 117002-117013.
DOI: 10.1016/j.seppur.2020.117002