

ARTICLES IN JOURNALS

2013



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CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

ARTICLES IN JOURNALS 2013

ICMAB’s researchers published 233 articles in international scientific journals in 2013. In this report you can find them ordered by research sublines and ranked according their Impact Factor. Seventy-four of them belong to two sublines and are repeated in each one.

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Articles in Journals 2013

1. MATERIALS FOR INFORMATION SCIENCE AND ELECTRONICS

1.1 Nanostructured magnetic materials and novel functional oxides

1. Carretero-Genevrièr, A; Gich, M; Picas, L; Gazquez, J; Drisko, GL; Boissiere, C; Grosso, D; Rodriguez-Carvajal, J; Sanchez, C
Soft-Chemistry-Based Routes to Epitaxial α -Quartz Thin Films with Tunable Textures
 (2013) *Science*, 340 (6134), pp. 827-831
2. Sandiumenge, F; Santiso, J; Balcells, L; Konstantinovic, Z; Roqueta, J; Pomar, A; Espinos, JP; Martínez, B
Competing Misfit Relaxation Mechanisms in Epitaxial Correlated Oxides
 (2013) *Physical Review Letters*, 110 (10), 107206
3. Ren, W; Yang, Y; Diéguez, O; Íñiguez, J; Choudhury, N; Bellaiche, L
Ferroelectric Domains in Multiferroic BiFeO_3 Films under Epitaxial Strains
 (2013) *Physical Review Letters*, 110 (18), 187601
Also included in line 4.2
4. Kimmel, AV; Íñiguez, J; Cain, MG; Sushko, PV
Neutral and Charged Oxygen Vacancies Induce Two-Dimensional Electron Gas Near $\text{SiO}_2/\text{BaTiO}_3$ Interfaces
 (2013) *Journal of Physical Chemistry Letters*, 4 (2), pp. 333-337
Also included in line 4.2
5. Konstantinović, Z; Sandiumenge, F; Santiso, J; Balcells, L; Martínez, B
Self-assembled pit arrays as templates for the integration of Au nanocrystals in oxide surfaces
 (2013) *Nanoscale*, 5 (3), pp. 1001-1008
Also included in line 4.3
6. Pascu, O; Marre, S; Aymonier, C; Roig, A
Ultrafast and continuous synthesis of crystalline ferrite nanoparticles in supercritical ethanol
 (2013) *Nanoscale*, 5 (5), pp. 2126-2132
Also included in line 4.3
7. Varón, M; Ojea-Jimenez, I; Arbiol, J; Balcells, L; Martínez, B; Puentes, VF
Spontaneous formation of hollow cobalt oxide nanoparticles by the Kirkendall effect at room temperature at the water-air interface
 (2013) *Nanoscale*, 5 (6), pp. 2429-2436
Also included in line 4.1

8. Zabaleta, J; Valencia, S; Kronast, F; Moreno, C; Abellán, P; Gázquez, J; Sepehri-Amin, H; Sandiumenge, F; Puig, T; Mestres, N; Obradors, X
Photoemission electron microscopy study of sub-200 nm self-assembled $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ epitaxial islands
(2013) *Nanoscale*, 5 (7), pp. 2990-2998
9. Fina, I; Dix, N; Rebled, JM; Gemeiner, P; Martí, X; Peiró, F; Dkhil, B; Sánchez, F; Fàbrega, L; Fontcuberta, J
The direct magnetoelectric effect in ferroelectric-ferromagnetic epitaxial heterostructures
(2013) *Nanoscale*, 5 (17), pp. 8037-8044
10. Sánchez-Rodríguez, D; Farjas, J; Roura, P; Ricart, S; Mestres, N; Obradors, X; Puig, T
Thermal Analysis for Low Temperature Synthesis of Oxide Thin Films from Chemical Solutions
(2013) *Journal of Physical Chemistry C*, 117 (39), pp. 20133-20138
Also included in line 4.3
11. Epifani, M; Díaz, R; Force, C; Comini, E; Andreu, T; Zamani, RR; Arbiol, J; Siciliano, P; Faglia, G; Morante, JR
Colloidal Counterpart of the TiO_2 -Supported V_2O_5 System: A Case Study of Oxide-on-Oxide Deposition by Wet Chemical Techniques. Synthesis, Vanadium Speciation, and Gas-Sensing Enhancement
(2013) *Journal of Physical Chemistry C*, 117 (40), pp. 20697-20705
Also included in line 4.1
12. Santiso, J; Balcells, L; Konstantinovic, Z; Roqueta, J; Ferrer, P; Pomar, A; Martínez, B; Sandiumenge, F
Thickness evolution of the twin structure and shear strain in LSMO films
(2013) *Crystengcomm*, 15 (19), pp. 3908-3918
13. Zamani, R; Fiz, R; Pan, J; Fischer, T; Mathur, S; Morante, JR; Arbiol, J
Oxide-oxide nanojunctions in coaxial $\text{SnO}_2/\text{TiO}_2$, $\text{SnO}_2/\text{V}_2\text{O}_3$ and $\text{SnO}_2/(\text{Ti}_{0.5}\text{V}_{0.5})_2\text{O}_3$ nanowire heterostructures
(2013) *Crystengcomm*, 15 (22), pp. 4532-4539
Also included in line 4.1
14. Rebled, JM; Foerster, M; Estradé, S; Rigato, F; Kanamadi, C; Sánchez, F; Peiró, F; Fontcuberta, J
Ti diffusion in (001) SrTiO_3 - CoFe_2O_4 epitaxial heterostructures: blocking role of a MgAl_2O_4 buffer
(2013) *Physical Chemistry Chemical Physics*, 15 (41), pp. 18274-18280
Also included in line 4.1
15. Rodríguez-Fortea, A; Llunell, M; Alemany, P; Canadell, E
Factors affecting the magnetic coupling in $\text{Sr}_2\text{V}_3\text{O}_9$ type oxides: As for V substitution in the VO_4 tetrahedra and nature of the cation
(2013) *Dalton Transactions*, 42 (44), pp. 15555-15558
Also included in line 4.2

16. Scigaj, M; Dix, N; Fina, I; Bachelet, R; Warot-Fonrose, B; Fontcuberta, J; Sánchez, F
Ultra-flat BaTiO₃ epitaxial films on Si(001) with large out-of-plane polarization
 (2013) *Applied Physics Letters*, 102 (11), 112905
17. Dix, N; Fina, I; Bachelet, R; Fàbrega, L; Kanamadi, C; Fontcuberta, J; Sánchez, F
Large out-of-plane ferroelectric polarization in flat epitaxial BaTiO₃ on CoFe₂O₄ heterostructures
 (2013) *Applied Physics Letters*, 102 (17), 172907
18. Long, SB; Lian, XJ; Cagli, C; Cartoixà, X; Rurali, R; Miranda, E; Jiménez, D; Perniola, L; Liu, M; Suñé, J
Quantum-size effects in hafnium-oxide resistive switching
 (2013) *Applied Physics Letters*, 102 (18), 183505
Also included in line 4.2
19. Petti, D; Albisetti, E; Reichlová, H; Gázquez, J; Varela, M; Molina-Ruiz, M; Lopeandía, AF; Olejník, K; Novák, V; Fina, I; Dkhil, B; Hayakawa, J; Martí, X; Wunderlich, J; Jungwirth, T; Bertacco, R
Storing magnetic information in IrMn/MgO/Ta tunnel junctions via field-cooling
 (2013) *Applied Physics Letters*, 102 (19), 192404
Also included in line 4.1
20. Urcelay-Olabarria, I; Perez-Mato, JM; Ribeiro, JL; García-Muñoz, JL; Ressouche, E; Skumryev, V; Mukhin, AA
Incommensurate magnetic structures of multiferroic MnWO₄ studied within the superspace formalism
 (2013) *Physical Review B*, 87 (1), 014419
Also included in line 4.1
21. Diéguez, O; Aguado-Puente, P; Junquera, J; Íñiguez, J
Domain walls in a perovskite oxide with two primary structural order parameters: First-principles study of BiFeO₃
 (2013) *Physical Review B*, 87 (2), 024102
Also included in line 4.2
22. Serrao, CR; Liu, J; Heron, JT; Singh-Bhalla, G; Yadav, A; Suresha, SJ; Paull, RJ; Yi, D; Chu, JH; Trassin, M; Vishwanath, A; Arenholz, E; Frontera, C; Železný, J; Jungwirth, T; Martí, X; Ramesh, R
Epitaxy-distorted spin-orbit Mott insulator in Sr₂IrO₄ thin films
 (2013) *Physical Review B*, 87 (8), 085121
Also included in line 4.1
23. Bellaiche, L; Íñiguez, J
Universal collaborative couplings between oxygen-octahedral rotations and antiferroelectric distortions in perovskites
 (2013) *Physical Review B*, 88 (1), 014104
Also included in line 4.2

24. Zanolli, Z; Wojdel, JC; Íñiguez, J; Ghosez, P
Electric control of the magnetization in BiFeO₃/LaFeO₃ superlattices
 (2013) *Physical Review B*, 88 (6), 060102(R)
Also included in line 4.2
25. Fina, I; Skumryev, V; O'Flynn, D; Balakrishnan, G; Fontcuberta, J
Phase coexistence and magnetically tuneable polarization in cycloidal multiferroics
 (2013) *Physical Review B*, 88 (10), 100403
26. Kadlec, C; Kadlec, F; Goian, V; Gich, M; Kempa, M; Rols, S; Savinov, M; Prokleška, J; Orlita, M; Kamba, S
Electromagnon in ferrimagnetic ε-Fe₂O₃ nanograin ceramics
 (2013) *Physical Review B*, 88 (10), 104301
27. Cazorla, C; Íñiguez, J
Insights into the phase diagram of bismuth ferrite from quasiharmonic free-energy calculations
 (2013) *Physical Review B*, 88 (21), 214430
Also included in line 4.2
28. Rahmedov, D; Prosandeev, S; Íñiguez, J; Bellaiche, L
Magnetoelectric signature in the magnetic properties of antiferromagnetic multiferroics: Atomistic simulations and phenomenology
 (2013) *Physical Review B*, 88 (22), 224405
Also included in line 4.2
29. Shao, F; Hoffmann, MWG; Prades, JD; Zamani, R; Arbiol, J; Morante, JR; Varechkina, E; Rumyantseva, M; Gaskov, A; Giebelhaus, I; Fischer, T; Mathur, S; Hernández-Ramírez, F
Heterostructured p-CuO (nanoparticle)/n-SnO₂ (nanowire) devices for selective H₂S detection
 (2013) *Sensors and Actuators B-Chemical*, 181, pp. 130-135
Also included in line 4.1
30. Zappa, D; Comini, E; Zamani, R; Arbiol, J; Morante, JR; Sberveglieri, G
Preparation of copper oxide nanowire-based conductometric chemical sensors
 (2013) *Sensors and Actuators B-Chemical*, 182, pp. 7-15
31. Epifani, M; Garcia-Castello, N; Prades, JD; Cirera, A; Andreu, T; Arbiol, J; Siciliano, P; Morante, JR
Suppression of the NO₂ interference by chromium addition in WO₃-based ammonia sensors. Investigation of the structural properties and of the related sensing pathways
 (2013) *Sensors and Actuators B-Chemical*, 187, pp. 308-312
32. Sánchez-Valdés, CF; Llamazares, JLS; Flores-Zúñiga, H; Ríos-Jara, D; Alvarez-Alonso, P; Gorria, P
Magnetocaloric effect in melt-spun MnCoGe ribbons
 (2013) *Scripta Materialia*, 69 (3), pp. 211-214

33. Queralto, A; del Pino, AP; Ricart, S; Obradors, X; Puig, T
Laser-induced metal organic decomposition for $Ce_{0.9}Zr_{0.1}O_{2-y}$ epitaxial thin film growth
(2013) *Journal of Alloys and Compounds*, 574, pp. 246-254

34. Wojdel, JC; Hermet, P; Ljungberg, MP; Ghosez, P; Íñiguez, J
First-principles model potentials for lattice-dynamical studies: general methodology and example of application to ferroic perovskite oxides
(2013) *Journal of Physics-Condensed Matter*, 25 (30), 305401
Also included in line 4.2

35. Castillo-Villa, PO; Mañosa, L; Planes, A; Soto-Parra, DE; Sánchez-Llamazares, JL; Flores-Zúñiga, H; Frontera, C
Elastocaloric and magnetocaloric effects in Ni-Mn-Sn(Cu) shape-memory alloy
(2013) *Journal of Applied Physics*, 113 (5), 053506

36. Balcells, L; Peña, L; Galceran, R; Pomar, A; Bozzo, B; Konstantinovic, Z; Sandiumenge, F; Martínez, B
Electroresistance and Joule heating effects in manganite thin films
(2013) *Journal of Applied Physics*, 113 (7), 073703

37. Martinez-Boubeta, C; Balcells, L; Martínez, B
On the changes at the Fe/MgO interface upon annealing
(2013) *Journal of Applied Physics*, 113 (12), 123908

38. Pérez, SM; Cobas, R; Cadogan, JM; Aguiar, JA; Frontera, C; Puig, T; Long, G; DeMarco, M; Coffey, D; Obradors, X
Anomalous electronic and magnetic properties of the $Eu_2Ru_2O_7$ pyrochlore
(2013) *Journal of Applied Physics*, 113 (17), 17E102

39. Llamazares, JLS; Sánchez-Valdés, CF; Ibarra-Gaytan, PJ; Álvarez-Alonso, P; Gorria, P; Blanco, JA
Magnetic entropy change and refrigerant capacity of rapidly solidified TbNi₂ alloy ribbons
(2013) *Journal of Applied Physics*, 113 (17), 17A912

40. Llamazares, JLS; Flores-Zúñiga, H; Ríos-Jara, D; Sánchez-Valdés, CF; García-Fernández, T; Ross, CA; García, C
Structural and magnetic characterization of the intermartensitic phase transition in NiMnSn Heusler alloy ribbons
(2013) *Journal of Applied Physics*, 113 (17), 17A948

41. Simeonidis, K; Martinez-Boubeta, C; Balcells, L; Monty, C; Stavropoulos, G; Mitrakas, M; Matsakidou, A; Vourlias, G; Angelakeris, M
Fe-based nanoparticles as tunable magnetic particle hyperthermia agents
(2013) *Journal of Applied Physics*, 114 (10), 103904
Also included in line 3.1

42. Radoičić, M; Ćirić-Marjanovic, G; Šaponjić, ZV; Mitrić, M; Konstantinović, Z; Stoiljković, M; Nedeljković, JM
Structural and magnetic properties of nanocomposites based on nanostructured polyaniline and titania nanotubes
(2013) *Journal of Materials Science*, 48 (17), pp. 5776-5787
43. Peña-Rodríguez, O; Sánchez-Valdés, CF; Garriga, M; Alonso, MI; Obradors, X; Puig, T
Optical properties of ceria-zirconia epitaxial films grown from chemical solutions
(2013) *Materials Chemistry and Physics*, 138 (2-3), pp. 462-467
44. Tejerina, MR; da Silva, KP; Goñi, AR; Torchia, GA
Hydrostatic-pressure dependence of Raman-active optical phonons in Nd:Mg:LiNbO₃
(2013) *Optical Materials*, 36 (2), pp. 581-583
45. Pérez-Mirabet, L; Solano, E; Martínez-Julián, F; Guzmán, R; Arbiol, J; Puig, T; Obradors, X; Pomar, A; Yáñez, R; Ros, J; Ricart, S
One-pot synthesis of stable colloidal solutions of MFe₂O₄ nanoparticles using oleylamine as solvent and stabilizer
(2013) *Materials Research Bulletin*, 48 (3), pp. 966-972
Also included in line 4.3
46. Vilardell, M; Granados, X; Ricart, S; Van Driessche, I; Palau, A; Puig, T; Obradors, X
Flexible manufacturing of functional ceramic coatings by inkjet printing
(2013) *Thin Solid Films*, 548, pp. 489-497
Also included in line 2.1
47. Malowney, J; Mestres, N; Borrise, X; Calleja, A; Guzmán, R; Llobet, J; Arbiol, J; Puig, T; Obradors, X; Bausells, J
Functional oxide nanostructures written by EBL on insulating single crystal substrates
(2013) *Microelectronic Engineering*, 110, pp. 94-99
Also included in line 4.3
48. Barón-González, AJ; Garcíaa-Muñoz, JL; Herrero-Martín, J; Frontera, C; Subías, G; Blasco, J
Ground state and the metal-insulator transition in (Pr_{1-y} Y_y)_{1-x} Ca_x CoO₃ (0.45 ≤ x ≤ 0.55) cobaltites
(2013) *Journal of the Korean Physical Society*, 63 (3), pp. 791-794
Also included in line 4.1
49. Giebelhaus, I; Varechkina, E; Fischer, T; Rumyantseva, M; Ivanov, V; Gaskov, A; Morante, JR; Arbiol, J; Tyrra, W; Mathur, S
One-dimensional CuO-SnO₂ p-n heterojunctions for enhanced detection of H₂S
(2013) *Journal of Materials Chemistry A*, 1 (37), pp. 11261-11268
Also included in line 4.1

1.2 Semiconductors and molecular materials with electronic, optoelectronic and magnetic functionalities

50. Heiss, M; Fontana, Y; Gustafsson, A; Wüst, G; Magen, C; O'Regan, DD; Luo, JW; Ketterer, B; Conesa-Boj, S; Kuhlmann, AV; Houel, J; Russo-Averchi, E; Morante, JR; Cantoni, M; Marzari, N; Arbiol, J; Zunger, A; Warburton, RJ; Morral, AFI
Self-assembled quantum dots in a nanowire system for quantum photonics
 (2013) *Nature Materials*, 12 (5), pp. 439-444
Also included in line 4.1
51. Amabilino, DB
MOLECULAR ELECTRONICS: Highly charged
 (2013) *Nature Chemistry*, 5 (5), pp. 365-366
52. Mas-Torrent, M; Rovira, C; Veciana, J
Surface-Confined Electroactive Molecules for Multistate Charge Storage Information
 (2013) *Advanced Materials*, 25 (3), pp. 462-468
Also included in line 4.3
53. Bounioux, C; Díaz-Chao, P; Campoy-Quiles, M; Martín-González, MS; Goñi, AR; Yerushalmi-Rozene, R; Müller, C
Thermoelectric composites of poly(3-hexylthiophene) and carbon nanotubes with a large power factor
 (2013) *Energy & Environmental Science*, 6 (3), pp. 918-925
54. Gomez-Coca, S; Cremades, E; Aliaga-Alcalde, N; Ruiz, E
Mononuclear Single-Molecule Magnets: Tailoring the Magnetic Anisotropy of First-Row Transition-Metal Complexes
 (2013) *Journal of the American Chemical Society*, 135 (18), pp. 7010-7018
55. Li, WH; Zamani, R; Gil, PR; Pelaz, B; Ibáñez, M; Cadavid, D; Shavel, A; Alvarez-Puebla, RA; Parak, WJ; Arbiol, J; Cabot, A
CuTe Nanocrystals: Shape and Size Control, Plasmonic Properties, and Use as SERS Probes and Photothermal Agents
 (2013) *Journal of the American Chemical Society*, 135 (19), pp. 7098-7101
Also included in line 4.1
56. Pop, F; Auban-Senzier, P; Frackowiak, A; Ptaszyński, K; Olejniczak, I; Wallis, JD; Canadell, E; Avarvari, N
Chirality Driven Metallic versus Semiconducting Behavior in a Complete Series of Radical Cation Salts Based on Dimethyl-Ethylenedithio-Tetrathiafulvalene (DM-EDT-TTF)
 (2013) *Journal of the American Chemical Society*, 135 (45), pp. 17176-17186
Also included in line 4.2
57. Steven, E; Saleh, WR; Lebedev, V; Acquah, SFA; Laukhin, V; Alamo, RG; Brooks, JS
Carbon nanotubes on a spider silk scaffold
 (2013) *Nature Communications*, 4, 2435

58. Rubio-Martinez, M; Puigmartí-Luis, J; Imaz, I; Dittrich, PS; MasPOCH, D
Dual-Template Synthesis of One-Dimensional Conductive Nanoparticle Superstructures from Coordination Metal-Peptide Polymer Crystals
 (2013) *Small*, 9 (24), pp. 4160-4167
59. Mongillo, M; Spathis, P; Katsaros, G; De Franceschi, S; Gentile, P; Rurali, R; Cartoixà, X
PtSi Clustering in Silicon Probed by Transport Spectroscopy
 (2013) *Physical Review X*, 3 (4), 041025
Also included in line 4.2
60. Souto, M; Guasch, J; Lloveras, V; Mayorga, P; Navarrete, JTL; Casado, J; Ratera, I; Rovira, C; Painelli, A; Veciana, J
Thermomagnetic Molecular System Based on TTF-PTM Radical: Switching the Spin and Charge Delocalization
 (2013) *Journal of Physical Chemistry Letters*, 4 (16), pp. 2721-2726
Also included in line 4.3
61. Casado-Montenegro, J; Mas-Torrent, M; Otón, F; Crivillers, N; Veciana, J; Rovira, C
Electrochemical and chemical tuning of the surface wettability of tetrathiafulvalene self-assembled monolayers
 (2013) *Chemical Communications*, 49 (73), pp. 8084-8086
Also included in line 4.3
62. Crivillers, N; Takano, Y; Matsumoto, Y; Casado-Montenegro, J; Mas-Torrent, M; Rovira, C; Akasaka, T; Veciana, J
Electrochemical and magnetic properties of a surface-grafted novel endohedral metallofullerene derivative
 (2013) *Chemical Communications*, 49 (74), pp. 8145-8147
Also included in line 4.3
63. Peña-Rodríguez, O; Rivera, A; Campoy-Quiles, M; Pal, U
Tunable Fano resonance in symmetric multilayered gold nanoshells
 (2013) *Nanoscale*, 5 (1), pp. 209-216
64. Zhu, Y; Zhou, Y; Utama, MIB; de la Mata, M; Zhao, YY; Zhang, Q; Peng, B; Magen, C; Arbiol, J; Xiong, QH
Solution phase van der Waals epitaxy of ZnO wire arrays
 (2013) *Nanoscale*, 5 (16), pp. 7242-7249
Also included in line 4.1
65. Arbiol, J; de la Mata, M; Eickhoff, M; Morral, AFI
Bandgap engineering in a nanowire: self-assembled 0, 1 and 2D quantum structures
 (2013) *Materials Today*, 16 (6), pp. 213-219
Also included in line 4.1
66. Calbo, J; Aragón, J; Otón, F; Lloveras, V; Mas-Torrent, M; Vidal-Gancedo, J; Veciana, J; Rovira, C; Ortí, E
Tetrathiafulvalene-Based Mixed-Valence Acceptor-Donor-Acceptor Triads: A Joint Theoretical and Experimental Approach
 (2013) *Chemistry-A European Journal*, 19 (49), pp. 16656-16664
Also included in line 4.3

67. Müller, C; Andersson, LM; Peña-Rodríguez, O; Garriga, M; Inganäs, O; Campoy-Quiles, M
Determination of Thermal Transition Depth Profiles in Polymer Semiconductor Films with Ellipsometry
(2013) *Macromolecules*, 46 (18), pp. 7325-7331
68. Fukata, N; Kaminaga, J; Takiguchi, R; Rurali, R; Dutta, M; Murakami, K
Interaction of Boron and Phosphorus Impurities in Silicon Nanowires during Low-Temperature Ozone Oxidation
(2013) *Journal of Physical Chemistry C*, 117 (39), pp. 20300-20307
69. Utama, MIB; de la Mata, M; Zhang, Q; Magen, C; Arbiol, J; Xiong, QH
The Growth of Ultralong ZnTe Micro/Nanostructures: The Influence of Polarity and Twin Direction on the Morphogenesis of Nanobelts and Nanosheets
(2013) *Crystal Growth & Design*, 13 (6), pp. 2590-2596
Also included in line 4.1
70. Camerel, F; Le Helloco, G; Guizouarn, T; Jeannin, O; Fourmigué, M; Frackowiak, A; Olejniczak, I; Świetlik, R; Marino, A; Collet, E; Toupet, L; Auban-Senzier, P; Canadell, E
Correlation between Metal-Insulator Transition and Hydrogen-Bonding Network in the Organic Metal δ -(BEDT-TTF)₄[2,6-Anthracene-bis(sulfonate)]·(H₂O)₄
(2013) *Crystal Growth & Design*, 13 (11), pp. 5135-5145
Also included in line 4.2
71. Gonidec, M; Krivokapic, I; Vidal-Gancedo, J; Davies, ES; McMaster, J; Gorun, SM; Veciana, J
Highly Reduced Double-Decker Single-Molecule Magnets Exhibiting Slow Magnetic Relaxation
(2013) *Inorganic Chemistry*, 52 (8), pp. 4464-4471
72. Silva, RAL; Neves, AIS; Lopes, EB; Santos, IC; Coutinho, JT; Pereira, LCJ; Rovira, C; Almeida, M; Belo, D
(α -DT-TTF)₂[Au(mnt)₂]: A Weakly Disordered Molecular Spin-Ladder System
(2013) *Inorganic Chemistry*, 52 (9), pp. 5300-5306
73. Jana, A; Aliaga-Alcalde, N; Ruiz, E; Mohanta, S
Structures, Magnetochemistry, Spectroscopy, Theoretical Study, and Catechol Oxidase Activity of Dinuclear and Dimer-of-Dinuclear Mixed-Valence Mn^{III}Mn^{II} Complexes Derived from a Macrocyclic Ligand
(2013) *Inorganic Chemistry*, 52 (13), pp. 7732-7746
Also included in line 4.3
74. Li, WH; Ibáñez, M; Zamani, RR; García-Castelló, N; Gorsse, S; Cadavid, D; Prades, JD; Arbiol, J; Cabot, A
Cu₂HgSnSe₄ nanoparticles: synthesis and thermoelectric properties
(2013) *Crystengcomm*, 15 (44), pp. 8966-8971
Also included in line 4.1
75. Reparaz, JS; Peica, N; Kirste, R; Goñi, AR; Wagner, MR; Callsen, G; Alonso, MI; Garriga, M; Marcus, IC; Ronda, A; Berbezier, I; Maultzsch, J; Thomsen, C; Hoffmann, A
Probing local strain and composition in Ge nanowires by means of tip-enhanced Raman scattering
(2013) *Nanotechnology*, 24 (18), 185704

76. Sánchez, G; Curiel, D; Ratera, I; Tárraga, A; Veciana, J; Molina, P
Modified mesoporous silica nanoparticles as a reusable, selective chromogenic sensor for mercury(II) recognition
(2013) *Dalton Transactions*, 42 (18), pp. 6318-6326
77. Rangel-Kuoppa, VT; Tonkikh, A; Werner, P; Jantsch, W
Electron and hole deep levels related to Sb-mediated Ge quantum dots embedded in n-type Si, studied by deep level transient spectroscopy
(2013) *Applied Physics Letters*, 102 (23), 232106
78. Ramírez, JM; Berencén, Y; López-Conesa, L; Rebled, JM; Peiró, F; Garrido, B
Carrier transport and electroluminescence efficiency of erbium-doped silicon nanocrystal superlattices
(2013) *Applied Physics Letters*, 103 (8), 081102
79. Caballero, D; Fumagalli, L; Teixidor, F; Samitier, J; Errachid, A
Directing polypyrrole growth by chemical micropatterns: A study of high-throughput well-ordered arrays of conductive 3D microrings
(2013) *Sensors and Actuators B-Chemical*, 177, pp. 1003-1009
Also included in line 4.3
80. Kareev, IE; Laukhina, E; Bubnov, VP; Martynenko, VM; Lloveras, V; Vidal-Gancedo, J; Mas-Torrent, M; Veciana, J; Rovira, C
Harnessing Electron Transfer from the Perchlorotriphenylmethide Anion to Y@C₈₂(C_{2v}) to Engineer an Endometallofullerene-Based Salt
(2013) *Chemphyschem*, 14 (8), pp. 1670-1675
Also included in line 4.3
81. Silva, RAL; Neves, AI; Afonso, ML; Santos, IC; Lopes, EB; Del Pozo, F; Pfattner, R; Mas-Torrent, M; Rovira, C; Almeida, M; Belo, D
 α -Dithiophene-tetrathiafulvalene a Detailed Study of an Electronic Donor and Its Derivatives
(2013) *European Journal of Inorganic Chemistry*, (13), pp. 2440-2446
82. Cerdeira, F; Garriga, M; Alonso, MI; Ossó, JO; Schreiber, F; Dosch, H; Cardona, M
Raman spectroscopy as a probe of molecular order, orientation, and stacking of fluorinated copper-phthalocyanine (F₁₆CuPc) thin films
(2013) *Journal of Raman Spectroscopy*, 44 (4), pp. 597-607
83. del Pino, AP; György, E; Logofatu, C; Duta, A
Study of the deposition of graphene oxide by matrix-assisted pulsed laser evaporation
(2013) *Journal of Physics D-Applied Physics*, 46 (50), 505309
84. Schmidt, M; Tognalli, NG; Otte, MA; Alonso, MI; Sepúlveda, B; Fainstein, A; Goñi, AR
Spatial Distribution of Optical Near-Fields in Plasmonic Gold Sphere Segment Voids
(2013) *Plasmonics*, 8 (2), pp. 921-930

85. Fan, JD; Fàbrega, C; Zamani, R; Shavel, A; Güell, F; Carrete, A; Andreu, T; López, AM; Morante, JR; Arbiol, J; Cabot, A
Solution-growth and optoelectronic properties of ZnO:Cl@ZnS core-shell nanowires with tunable shell thickness
(2013) *Journal of Alloys and Compounds*, 555, pp. 213-218
Also included in line 4.1
86. Carbonell-Coronado, C; De Soto, F; Cazorla, C; Boronat, J; Gordillo, MC
Zero-temperature phase diagram of D₂ physisorbed on graphane
(2013) *Journal of Physics-Condensed Matter*, 25 (44), 445011
Also included in line 4.2
87. Miranzo, P; Ramírez, C; Román-Manso, B; Garzón, L; Gutiérrez, HR; Terrones, M; Ocal, C; Osendi, MI; Belmonte, M
In situ processing of electrically conducting graphene/SiC nanocomposites
(2013) *Journal of the European Ceramic Society*, 33 (10), pp. 1665-1674
Also included in line 4.1
88. Schörmann, J; Hille, P; Schäfer, M; Müssener, J; Becker, P; Klar, PJ; Kleine-Boymann, M; Rohnke, M; de la Mata, M; Arbiol, J; Hofmann, DM; Teubert, J; Eickhoff, M
Germanium doping of self-assembled GaN nanowires grown by plasma-assisted molecular beam epitaxy
(2013) *Journal of Applied Physics*, 114 (10), 103505
89. Amato, G; Cultrera, A; Boarino, L; Lamberti, C; Bordiga, S; Mercuri, F; Cartoixà, X; Rurali, R
Molecular doping and gas sensing in Si nanowires: From charge injection to reduced dielectric mismatch
(2013) *Journal of Applied Physics*, 114 (20), 204302
Also included in line 4.2
90. György, E; del Pino, AP; Roqueta, J; Ballesteros, B; Cabana, L; Tobias, G
Effect of laser radiation on multi-wall carbon nanotubes: study of shell structure and immobilization process
(2013) *Journal of Nanoparticle Research*, 15 (8), 1852
91. Audouard, A; Fortin, JY; Vignolles, D; Lyubovskii, RB; Zhilyaeva, EI; Lyubovskaya, RN; Canadell, E
Onsager phase factor of quantum oscillations in the organic metal θ -(BEDT-TTF)₄CoBr₄(C₆H₄Cl₂)
(2013) *Synthetic Metals*, 171, pp. 51-55
Also included in line 4.2
92. Benkouider, A; Berbezier, I; Ronda, A; Favre, L; Gomes, ER; Marcus, IC; Alonso, I; Delobbe, A; Sudraud, P
Ultimate nanopatterning of Si substrate using filtered liquid metal alloy ion source-focused ion beam
(2013) *Thin Solid Films*, 543, pp. 69-73

93. Reparaz, JS; Goñi, AR; Alonso, MI; Garriga, M
Valence band structure engineering of thin SiGe/Si quantum wells for piezoresistive applications
(2013) *Physica Status Solidi B-Basic Solid State Physics*, 250 (4), pp. 760-764
94. Cabanillas-Gonzalez, J; Schmidt, M; Peña-Rodríguez, O; Alonso, MI; Goñi, AR; Campoy-Quiles, M
Effect of Structure and Interlayer Diffusion in Organic Position Sensitive Photodetectors Based on Complementary Wedge Donor/Acceptor Layers
(2013) *Journal of Nanoscience and Nanotechnology*, 13 (7), pp. 5148-5153
95. Ibáñez, M; Cadavid, D; Anselmi-Tamburini, U; Zamani, R; Gorse, S; Li, WH; López, AM; Morante, JR; Arbiol, J; Cabot, A
Colloidal synthesis and thermoelectric properties of Cu₂SnSe₃ nanocrystals
(2013) *Journal of Materials Chemistry A*, 1 (4), pp. 1421-1426
Also included in line 4.1
96. Pfattner, R; Pavlica, E; Jaggi, M; Liu, SX; Decurtins, S; Bratina, G; Veciana, J; Mas-Torrent, M; Rovira, C
Photo-induced intramolecular charge transfer in an ambipolar field-effect transistor based on a π -conjugated donor-acceptor dyad
(2013) *Journal of Materials Chemistry C*, 1 (25), pp. 3985-3988
97. de la Mata, M; Zhou, X; Furtmayr, F; Teubert, J; Gradečak, S; Eickhoff, M; Morral, AFI; Arbiol, J
A review of MBE grown 0D, 1D and 2D quantum structures in a nanowire
(2013) *Journal of Materials Chemistry C*, 1 (28), pp. 4300-4312
Also included in line 4.1
98. Beedle, CC; Rodríguez-Jiménez, S; Díaz-Torres, R; Aliaga-Alcalde, N; Hill, S
High-field/frequency EPR studies of symmetry-induced magneto-structural correlations in Ni(II) coordination complexes
(2013) *Abstracts of Papers of the American Chemical Society*, 245, 849

2. LINE MATERIALS FOR ENERGY AND ENVIRONMENT

2.1 Superconducting materials and electrical power applications

99. Trastoy, J; Rouco, V; Ulysse, C; Bernard, R; Palau, A; Puig, T; Faini, G; Lesueur, J; Briatico, J; Villegas, JE
Unusual magneto-transport of YBa₂Cu₃O_{7- δ} films due to the interplay of anisotropy, random disorder and nanoscale periodic pinning
(2013) *New Journal of Physics*, 15, 103022

100. Prokhorova, TG; Zorina, LV; Simonov, SV; Zverev, VN; Canadell, E; Shibaeva, RP; Yagubskii, EB
The first molecular superconductor based on BEDT-TTF radical cation salt with paramagnetic tris(oxalato)ruthenate anion
 (2013) *Crystengcomm*, 15 (35), pp. 7048-7055
Also included in line 4.2
101. Guzmán, R; Gázquez, J; Rouco, V; Palau, A; Magen, C; Varela, M; Arbiol, J; Obradors, X; Puig, T
Strain-driven broken twin boundary coherence in YBa₂Cu₃O_{7-δ} nanocomposite thin films
 (2013) *Applied Physics Letters*, 102 (8), 081906
Also included in line 4.1
102. Coll, M; Ye, S; Rouco, V; Palau, A; Guzmán, R; Gázquez, J; Arbiol, J; Suo, H; Puig, T; Obradors, X
Solution-derived YBa₂Cu₃O₇ nanocomposite films with a Ba₂YTaO₆ secondary phase for improved superconducting properties
 (2013) *Superconductor Science & Technology*, 26 (1), 015001
103. Bartolomé, E; Vlad, VR; Calleja, A; Aklalouch, M; Guzmán, R; Arbiol, J; Granados, X; Palau, A; Obradors, X; Puig, T; Usoskin, A
Magnetic and structural characterization of inkjet-printed ^{TFA}YBa₂Cu₃O_{7-x}/^{MOD}CZO/^{ABAD}YSZ/SS coated conductors
 (2013) *Superconductor Science & Technology*, 26 (12), 125004
104. Eloussifi, H; Farjas, J; Roura, P; Ricart, S; Puig, T; Obradors, X; Dammak, M
Thermal decomposition of barium trifluoroacetate thin films
 (2013) *Thermochimica Acta*, 556, pp. 58-62
105. Eloussifi, H; Farjas, J; Roura, P; Ricart, S; Puig, T; Obradors, X; Dammak, M
Thermoanalytical study of the decomposition of yttrium trifluoroacetate thin films
 (2013) *Thin Solid Films*, 545, pp. 200-204
106. Vilardell, M; Granados, X; Ricart, S; Van Driessche, I; Palau, A; Puig, T; Obradors, X
Flexible manufacturing of functional ceramic coatings by inkjet printing
 (2013) *Thin Solid Films*, 548, pp. 489-497
Also included in line 1.1
107. Parra-Borderias, M; Fernandez-Martinez, I; Fàbrega, L; Camon, A; Gil, O; Costa-Kramer, JL; Gonzalez-Arrabal, R; Sese, J; Bueno, J; Briones, F
Characterization of a Mo/Au Thermometer for ATHENA
 (2013) *IEEE Transactions on Applied Superconductivity*, 23 (3), 2300405
108. López, J; Maynou, R; Granados, X; Bosch, R; Grau, J
Finite Element Analysis of Thermal and Electromagnetic Relaxation Processes in a YBCO Superconducting Pellet. Trapped Fields and Currents Distributions Differences
 (2013), *IEEE Transactions on Applied Superconductivity*, 23 (3), 4901104

109. Del-Rosario-Calaf, G; Lloberas-Valls, J; Sumper, A; Granados, X; Villafafila-Robles, R
Modeling of Second Generation HTS Cables for Grid Fault Analysis Applied to Power System Simulation
 (2013) *IEEE Transactions on Applied Superconductivity*, 23 (3), 5401204
110. Costa, RM; Dias, FT; Pureur, P; Obradors, X
Multiple superconducting transition and phase separation in melt-textured YBa₂Cu₃O_{7-d}
 (2013) *Physica C-Superconductivity and its Applications*, 495, pp. 202-207

2.2 Chemically and electrochemically generated materials for energy harvesting, storage, fuel use, sensing and catalysis

111. Llordés, A; Garcia, G; Gázquez, J; Milliron, DJ
Tunable near-infrared and visible-light transmittance in nanocrystal-in-glass composites
 (2013) *Nature*, 500 (7462), pp. 323-327
Also included in line 4.1
112. Ibáñez, M; Zamani, R; Gorsse, S; Fan, JD; Ortega, S; Cadavid, D; Morante, JR; Arbiol, J; Cabot, A
Core-Shell Nanoparticles As Building Blocks for the Bottom-Up Production of Functional Nanocomposites: PbTe-PbS Thermoelectric Properties
 (2013) *ACS Nano*, 7 (3), pp. 2573-2586
Also included in line 4.1
113. Guerrero, A; Dörfling, B; Ripolles-Sanchis, T; Aghamohammadi, M; Barrena, E; Campoy-Quiles, M; Garcia-Belmonte, G
Interplay between Fullerene Surface Coverage and Contact Selectivity of Cathode Interfaces in Organic Solar Cells
 (2013) *ACS Nano*, 7 (5), pp. 4637-4646
Also included in line 4.1
114. Ponrouch, A; Dedryvère, R; Monti, D; Demet, AE; Mba, JMA; Croguennec, L; Masquelier, C; Johansson, P; Palacín, MR
Towards high energy density sodium ion batteries through electrolyte optimization
 (2013) *Energy & Environmental Science*, 6 (8), pp. 2361-2369
115. Ponrouch, A; Goñi, AR; Sougrati, MT; Ati, M; Tarascon, JM; Nava-Avendaño, J; Palacín, MR
A new room temperature and solvent free carbon coating procedure for battery electrode materials
 (2013) *Energy & Environmental Science*, 6 (11), pp. 3363-3371
116. Senguttuvan, P; Rousse, G; de Dompablo, MEAY; Vezin, H; Tarascon, JM; Palacín, MR
Low-Potential Sodium Insertion in a NASICON-Type Structure through the Ti(III)/Ti(II) Redox Couple
 (2013) *Journal of the American Chemical Society*, 135 (10), pp. 3897-3903

117. Guasch, J; Grisanti, L; Souto, M; Lloveras, V; Vidal-Gancedo, J; Ratera, I; Painelli, A; Rovira, C; Veciana, J
Intra- and Intermolecular Charge Transfer in Aggregates of Tetrathiafulvalene-Triphenylmethyl Radical Derivatives in Solution
 (2013) *Journal of the American Chemical Society*, 135 (18), pp. 6958-6967
 Also included in line 4.3
118. Senguttuvan, P; Rousse, G; Vezin, H; Tarascon, JM; Palacín, MR
Titanium(III) Sulfate as New Negative Electrode for Sodium-Ion Batteries
 (2013) *Chemistry of Materials*, 25 (12), pp. 2391-2393
119. Rousse, G; Arroyo-de Domablo, ME; Senguttuvan, P; Ponrouch, A; Tarascon, JM; Palacín, MR
Rationalization of Intercalation Potential and Redox Mechanism for $A_2Ti_3O_7$ (A = Li, Na)
 (2013) *Chemistry of Materials*, 25 (24), pp. 4946-4956
120. Clark, L; Oró-Solé, J; Knight, KS; Fuertes, A; Attfield, JP
Thermally Robust Anion-Chain Order in Oxynitride Perovskites
 (2013) *Chemistry of Materials*, 25 (24), pp. 5004-5011
 Also included in line 4.3
121. Stoian, DC; Taboada, E; Llorca, J; Molins, E; Medina, F; Segarra, AM
Boosted CO_2 reaction with methanol to yield dimethyl carbonate over Mg-Al hydrotalcite-silica lyogels
 (2013) *Chemical Communications*, 49 (48), pp. 5489-5491
122. González, MD; Salagre, P; Taboada, E; Llorca, J; Molins, E; Cesteros, Y
Sulfonic acid-functionalized aerogels as high resistant to deactivation catalysts for the etherification of glycerol with isobutene
 (2013) *Applied Catalysis B-Environmental*, 136, pp. 287-293
123. León-Reina, L; Cabeza, A; Rius, J; Maireles-Torres, P; Alba-Rubio, AC; Granados, ML
Structural and surface study of calcium glyceroxide, an active phase for biodiesel production under heterogeneous catalysis
 (2013) *Journal of Catalysis*, 300, pp. 30-36
 Also included in line 4.1
124. Fan, JD; Fàbrega, C; Zamani, RR; Hao, Y; Parra, A; Andreu, T; Arbiol, J; Boschloo, G; Hagfeldt, A; Morante, JR; Cabot, A
Enhanced Photovoltaic Performance of Nanowire Dye-Sensitized Solar Cells Based on Coaxial $TiO_2@TiO$ Heterostructures with a Cobalt(II/III) Redox Electrolyte
 (2013) *ACS Applied Materials & Interfaces*, 5 (20), pp. 9872-9877
 Also included in line 4.1
125. Hernández-Garrido, JC; Gómez, DM; Gaona, D; Vidal, H; Gatica, JM; Sanz, O; Rebled, JM; Peiró, F; Calvino, JJ
Combined (S)TEM-FIB Insight into the Influence of the Preparation Method on the Final Surface Structure of a Co_3O_4/La -Modified- CeO_2 Washcoated Monolithic Catalyst
 (2013) *Journal of Physical Chemistry C*, 117 (25), pp. 13028-13036
 Also included in line 4.1

126. Nava-Avendaño, J; Frontera, C; Ayllón, JA; Oró-Solé, J; Senguttuvan, P; Palacín, MR
Synthesis and Characterization of a Novel Sodium Transition Metal Oxyfluoride: NaMnMoO₃F₃·H₂O
 (2013) *Inorganic Chemistry*, 52 (17), pp. 9791-9797
Also included in line 4.3
127. Ponrouch, A; Goñi, AR; Palacín, MR
High capacity hard carbon anodes for sodium ion batteries in additive free electrolyte
 (2013) *Electrochemistry Communications*, 27, pp. 85-88
128. Ibarlucea, B; Díez-Gil, C; Ratera, I; Veciana, J; Caballero, A; Zapata, F; Tàrraga, A; Molina, P; Demming, S; Büttgenbach, S; Fernández-Sánchez, C; Llobera, A
PDMS based photonic lab-on-a-chip for the selective optical detection of heavy metal ions
 (2013) *Analyst*, 138 (3), pp. 839-844
Also included in line 4.3
129. Sanz-Pérez, ES; Olivares-Marín, M; Arencibia, A; Sanz, R; Calleja, G; Maroto-Valer, MM
CO₂ adsorption performance of amino-functionalized SBA-15 under post-combustion conditions
 (2013) *International Journal of Greenhouse Gas Control*, 17, pp. 366-375
130. López-Suárez, M; Agustí, J; Torres, F; Rurali, R; Abadal, G
Inducing bistability with local electret technology in a microcantilever based non-linear vibration energy harvester
 (2013) *Applied Physics Letters*, 102 (15), 153901
Also included in line 4.2
131. Stoica, AI; Kleber, C; Viñas, C; Teixidor, F
Ion selective electrodes for protonable nitrogen containing analytes: Metallacarboranes as active membrane components
 (2013) *Electrochimica Acta*, 113, pp. 94-98
Also included in line 3.1
132. Olivares-Marín, M; Cuerda-Correa, EM; Nieto-Sánchez, A; García, S; Pevida, C; Román, S
Influence of morphology, porosity and crystal structure of CaCO₃ precursors on the CO₂ capture performance of CaO-derived sorbents
 (2013) *Chemical Engineering Journal*, 217, pp. 71-81
133. López-Periago, AM; Fraile, J; López-Aranguren, P; Vega, LF; Domingo, C
CO₂ capture efficiency and carbonation/calcination kinetics of micro and nanosized particles of supercritically precipitated calcium carbonate
 (2013) *Chemical Engineering Journal*, 226, pp. 357-366
134. Nieto-Sanchez, AJ; Olivares-Marín, M; García, S; Pevida, C; Cuerda-Correa, EM
Influence of the operation conditions on CO₂ capture by CaO-derived sorbents prepared from synthetic CaCO₃
 (2013) *Chemosphere*, 93 (9), pp. 2148-2158

135. Espinal, R; Taboada, E; Molins, E; Chimentao, RJ; Medina, F; Llorca, J
Ethanol Steam Reforming Over Hydrotalcite-Derived Co Catalysts Doped with Pt and Rh
 (2013) *Topics in Catalysis*, 56 (18-20), pp. 1660-1671
136. López-Conesa, L; Rebled, JM; Chambrier, MH; Boulahya, K; González-Calbet, JM; Braida, MD; Dezanneau, G; Estrade, S; Peiró, F
Local Structure of Rare Earth Niobates (RE₃NbO₇, RE=Y, Er, Yb, Lu) for Proton Conduction Applications
 (2013) *Fuel Cells*, 13 (1), pp. 29-33
Also included in line 4.1
137. Monti, D; Ponrouch, A; Estruga, M; Palacín, MR; Ayllón, JA; Roig, A
Microwaves as a synthetic route for preparing electrochemically active TiO₂ nanoparticles
 (2013) *Journal of Materials Research*, 28 (3), pp. 340-347
Also included in line 4.3
138. Kurzman, JA; Jouan, G; Courty, M; Palacín, MR; Armand, M; Recham, N
Bronsted acid-base reactions with anhydrous sulfamates as a pathway to [SO₃N]³⁻-containing compounds: Preparation of Li₃SO₃N
 (2013) *Solid State Sciences*, 25, pp. 28-32
139. López-Suárez, M; Rurali, R; Abadal, G
Buckling suspended graphene nanoribbons to harvest energy from noisy vibrations
 (2013) *Microelectronic Engineering*, 111, pp. 122-125
Also included in line 4.2
140. Gich, M; Fernández-Sánchez, C; Cotet, LC; Niu, PF; Roig, A
Facile synthesis of porous bismuth-carbon nanocomposites for the sensitive detection of heavy metals
 (2013) *Journal of Materials Chemistry A*, 1 (37), pp. 11410-11418
141. Olivares-Marín, M; Palomino, P; Amarilla, JM; Enciso, E; Tonti, D
Effects of architecture on the electrochemistry of binder-free inverse opal carbons as Li-air cathodes in an ionic liquid-based electrolyte
 (2013) *Journal of Materials Chemistry A*, 1 (45), pp. 14270-14279
142. Senguttuvan, P; Rousse, G; Oro-Solé, J; Tarascon, JM; Palacín, MR
A low temperature TiP₂O₇ polymorph exhibiting reversible insertion of lithium and sodium ions
 (2013) *Journal of Materials Chemistry A*, 1 (48), pp. 15284-15291

3. BIOMATERIALS AND MATERIALS FOR DRUG DELIVERY, THERAPY, DIAGNOSTICS AND SENSING

3.1 Biomaterials and materials for drug delivery, therapy, diagnostics and sensing

143. Cabrera, I; Elizondo, E; Esteban, O; Corchero, JL; Melgarejo, M; Pulido, D; Córdoba, A; Moreno, E; Unzueta, U; Vazquez, E; Abasolo, I; Schwartz, S; Villaverde, A; Abericio, F; Royo, M; García-Parajo, MF; Ventosa, N; Veciana, J
Multifunctional Nanovesicle-Bioactive Conjugates Prepared by a One-Step Scalable Method Using CO₂-Expanded Solvents
(2013) *Nano Letters*, 13 (8), pp. 3766-3774
144. Tatkiewicz, WI; Seras-Franzoso, J; García-Fruitós, E; Vazquez, E; Ventosa, N; Peebo, K; Ratera, I; Villaverde, A; Veciana, J
Two-Dimensional Microscale Engineering of Protein-Based Nanoparticles for Cell Guidance
(2013) *ACS Nano*, 7 (6), pp. 4774-4784
145. Kastl, L; Sasse, D; Wulf, V; Hartmann, R; Mircheski, J; Ranke, C; Carregal-Romero, S; Martínez-López, JA; Fernández-Chacón, R; Parak, WJ; Elsasser, HP; Rivera Gil, P
Multiple Internalization Pathways of Polyelectrolyte Multilayer Capsules into Mammalian Cells
(2013) *ACS Nano*, 7 (8), pp. 6605-6618
146. González-Campo, A; Amabilino, DB
Biomolecules at Interfaces: Chiral, Naturally
(2013) *Biochirality: Origins, Evolution and Molecular Recognition*, 333, pp. 109-156
Also included in line 4.3
147. Seras-Franzoso, J; Steurer, C; Roldán, M; Vendrell, M; Vidaurre-Agut, C; Tarruella, A; Saldaña, L; Vilaboa, N; Parera, M; Elizondo, E; Ratera, I; Ventosa, N; Veciana, J; Campillo-Fernández, AJ; García-Fruitós, E; Vázquez, E; Villaverde, A
Functionalization of 3D scaffolds with protein-releasing biomaterials for intracellular delivery
(2013) *Journal of Controlled Release*, 171 (1), pp. 63-72
148. Prats-Alfonso, E; Abad, L; Casañ-Pastor, N; Gonzalo-Ruiz, J; Baldrich, E
Iridium oxide pH sensor for biomedical applications. Case urea-urease in real urine samples
(2013) *Biosensors & Bioelectronics*, 39 (1), pp. 163-169
149. Cano-Garrido, O; Rodríguez-Carmona, E; Díez-Gil, C; Vázquez, E; Elizondo, E; Cubarsi, R; Seras-Franzoso, J; Corchero, JL; Rinas, U; Ratera, I; Ventosa, N; Veciana, J; Villaverde, A; García-Fruitós, E
Supramolecular organization of protein-releasing functional amyloids solved in bacterial inclusion bodies
(2013) *Acta Biomaterialia*, 9 (4), pp. 6134-6142

150. Adura, C; Guerrero, S; Salas, E; Medel, L; Riveros, A; Mena, J; Arbiol, J; Albericio, F; Giralt, E; Kogan, MJ
Stable Conjugates of Peptides with Gold Nanorods for Biomedical Applications with Reduced Effects on Cell Viability
 (2013) *ACS Applied Materials & Interfaces*, 5 (10), pp. 4076-4085
151. Ferrer-Tasies, L; Moreno-Calvo, E; Cano-Sarabia, M; Aguilera-Arzo, M; Angelova, A; Lesieur, S; Ricart, S; Faraudo, J; Ventosa, N; Veciana, J
Quatsomes: Vesicles Formed by Self-Assembly of Sterols and Quaternary Ammonium Surfactants
 (2013) *Langmuir*, 29 (22), pp. 6519-6528
Also included in line 4.2
152. Moral-Vico, J; Carretero, NM; Pérez, E; Suñol, C; Lichtenstein, M; Casañ-Pastor, N
Dynamic electrodeposition of aminoacid-polypyrrole on aminoacid-PEDOT substrates: Conducting polymer bilayers as electrodes in neural systems
 (2013) *Electrochimica Acta*, 111, pp. 250-260
153. Stoica, AI; Kleber, C; Viñas, C; Teixidor, F
Ion selective electrodes for protonable nitrogen containing analytes: Metallacarboranes as active membrane components
 (2013) *Electrochimica Acta*, 113, pp. 94-98
Also included in line 2.2
154. György, E; del Pino, AP; Roqueta, J; Sánchez, C; Oliva, AG
Processing and immobilization of chondroitin-4-sulphate by UV laser radiation
 (2013) *Colloids and Surfaces B-Biointerfaces*, 104, pp. 169-173
155. Viñas, C
The uniqueness of boron as a novel challenging element for drugs in pharmacology, medicine and for smart biomaterials
 (2013) *Future Medicinal Chemistry*, 5 (6), pp. 617-619
156. Motoc, MM; Axente, E; Popescu, C; Sima, LE; Petrescu, SM; Mihailescu, IN; György, E
Active protein and calcium hydroxyapatite bilayers grown by laser techniques for therapeutic applications
 (2013) *Journal of Biomedical Materials Research Part A*, 101 (9), pp. 2706-2711
157. Murillo-Cremaes, N; López-Periago, AM; Saurina, J; Roig, A; Domingo, C
Nanostructured silica-based drug delivery vehicles for hydrophobic and moisture sensitive drugs
 (2013) *Journal of Supercritical Fluids*, 73, pp. 34-42
158. Salerno, A; Pascual, CD
A clean and sustainable route towards the design and fabrication of biodegradable foams by means of supercritical CO₂/ethyl lactate solid-state foaming
 (2013) *RSC Advances*, 3 (38), pp. 17355-17363

159. Simeonidis, K; Martinez-Boubeta, C; Balcells, L; Monty, C; Stavropoulos, G; Mitrakas, M; Matsakidou, A; Vourlias, G; Angelakeris, M
Fe-based nanoparticles as tunable magnetic particle hyperthermia agents
(2013) *Journal of Applied Physics*, 114 (10), 103904
Also included in line 1.1
160. Popova, T; Zaulet, A; Teixidor, F; Alexandrova, R; Viñas, C
Investigations on antimicrobial activity of cobaltabisdicarbollides
(2013) *Journal of Organometallic Chemistry*, 747, pp. 229-234
161. Cruz, AM; Casañ-Pastor, N
Graded conducting titanium-iridium oxide coatings for bioelectrodes in neural systems
(2013) *Thin Solid Films*, 534, pp. 316-324

4. METHODOLOGIES FOR MATERIALS SCIENCE AND NANO-TECHNOLOGY

4.1 Scattering and microscopy methodologies for advanced materials investigation

162. Llordés, A; Garcia, G; Gázquez, J; Milliron, DJ
Tunable near-infrared and visible-light transmittance in nanocrystal-in-glass composites
(2013) *Nature*, 500 (7462), pp. 323-327
Also included in line 2.2
163. Heiss, M; Fontana, Y; Gustafsson, A; Wüst, G; Magen, C; O'Regan, DD; Luo, JW; Ketterer, B; Conesa-Boj, S; Kuhlmann, AV; Houel, J; Russo-Averchi, E; Morante, JR; Cantoni, M; Marzari, N; Arbiol, J; Zunger, A; Warburton, RJ; Morral, AFI
Self-assembled quantum dots in a nanowire system for quantum photonics
(2013) *Nature Materials*, 12 (5), pp. 439-444
Also included in line 1.2
164. Salluzzo, M; Gariglio, S; Torrelles, X; Ristic, Z; Di Capua, R; Drnec, J; Sala, MM; Ghiringhelli, G; Felici, R; Brookes, NB
Structural and Electronic Reconstructions at the LaAlO₃/SrTiO₃ Interface
(2013) *Advanced Materials*, 25 (16), pp. 2333-2338
165. Petrov, AY; Torrelles, X; Verna, A; Xu, H; Cossaro, A; Pedio, M; Garcia-Barriocanal, J; Castro, GR; Davidson, BA
Surface Octahedral Distortions and Atomic Design of Perovskite Interfaces
(2013) *Advanced Materials*, 25 (29), pp. 4043-4048
166. Ibáñez, M; Zamani, R; Gorsse, S; Fan, JD; Ortega, S; Cadavid, D; Morante, JR; Arbiol, J; Cabot, A
Core-Shell Nanoparticles As Building Blocks for the Bottom-Up Production of Functional Nanocomposites: PbTe-PbS Thermoelectric Properties
(2013) *ACS Nano*, 7 (3), pp. 2573-2586
Also included in line 2.2

167. Guerrero, A; Dörling, B; Ripolles-Sanchis, T; Aghamohammadi, M; Barrena, E; Campoy-Quiles, M; Garcia-Belmonte, G
Interplay between Fullerene Surface Coverage and Contact Selectivity of Cathode Interfaces in Organic Solar Cells
 (2013) *ACS Nano*, 7 (5), pp. 4637-4646
Also included in line 2.2
168. Li, WH; Zamani, R; Ibáñez, M; Cadavid, D; Shavel, A; Morante, JR; Arbiol, J; Cabot, A
Metal Ions To Control the Morphology of Semiconductor Nanoparticles: Copper Selenide Nanocubes
 (2013) *Journal of the American Chemical Society*, 135 (12), pp. 4664-4667
169. Li, WH; Zamani, R; Gil, PR; Pelaz, B; Ibáñez, M; Cadavid, D; Shavel, A; Alvarez-Puebla, RA; Parak, WJ; Arbiol, J; Cabot, A
CuTe Nanocrystals: Shape and Size Control, Plasmonic Properties, and Use as SERS Probes and Photothermal Agents
 (2013) *Journal of the American Chemical Society*, 135 (19), pp. 7098-7101
Also included in line 1.2
170. Wadley, P; Novák, V; Campion, RP; Rinaldi, C; Martí, X; Reichlová, H; Železný, J; Gázquez, J; Roldan, MA; Varela, M; Khalyavin, D; Langridge, S; Kriegner, D; Máca, F; Mašek, J; Bertacco, R; Holý, V; Rushforth, AW; Edmonds, KW; Gallagher, BL; Foxon, CT; Wunderlich, J; Jungwirth, T
Tetragonal phase of epitaxial room-temperature antiferromagnet CuMnAs
 (2013) *Nature Communications*, 4, 2322
171. Utama, MIB; de la Mata, M; Magen, C; Arbiol, J; Xiong, QH
Twinning-, Polytypism-, and Polarity-Induced Morphological Modulation in Nonplanar Nanostructures with van der Waals Epitaxy
 (2013) *Advanced Functional Materials*, 23 (13), pp. 1636-1646
172. Cuesta, A; De la Torre, AG; Losilla, ER; Peterson, VK; Rejmak, P; Ayuela, A; Frontera, C; Aranda, MAG
Structure, Atomistic Simulations, and Phase Transition of Stoichiometric Yeelimite
 (2013) *Chemistry of Materials*, 25 (9), pp. 1680-1687
173. Varón, M; Ojea-Jimenez, I; Arbiol, J; Balcells, L; Martínez, B; Puentes, VF
Spontaneous formation of hollow cobalt oxide nanoparticles by the Kirkendall effect at room temperature at the water-air interface
 (2013) *Nanoscale*, 5 (6), pp. 2429-2436
Also included in line 1.1
174. Utama, MIB; Zhang, Q; Zhang, J; Yuan, YW; Belarre, FJ; Arbiol, J; Xiong, QH
Recent developments and future directions in the growth of nanostructures by van der Waals epitaxy
 (2013), *Nanoscale*, 5 (9), pp. 3570-3588

175. Zhu, Y; Zhou, Y; Utama, MIB; de la Mata, M; Zhao, YY; Zhang, Q; Peng, B; Magen, C; Arbiol, J; Xiong, QH
Solution phase van der Waals epitaxy of ZnO wire arrays
 (2013) *Nanoscale*, 5 (16), pp. 7242-7249
Also included in line 1.2
176. Arbiol, J; de la Mata, M; Eickhoff, M; Morral, AFI
Bandgap engineering in a nanowire: self-assembled 0, 1 and 2D quantum structures
 (2013) *Materials Today*, 16 (6), pp. 213-219
Also included in line 1.2
177. León-Reina, L; Cabeza, A; Rius, J; Maireles-Torres, P; Alba-Rubio, AC; Granados, ML
Structural and surface study of calcium glyceroxide, an active phase for biodiesel production under heterogeneous catalysis
 (2013) *Journal of Catalysis*, 300, pp. 30-36
Also included in line 2.2
178. Fan, JD; Fàbrega, C; Zamani, RR; Hao, Y; Parra, A; Andreu, T; Arbiol, J; Boschloo, G; Hagfeldt, A; Morante, JR; Cabot, A
Enhanced Photovoltaic Performance of Nanowire Dye-Sensitized Solar Cells Based on Coaxial TiO₂@TiO Heterostructures with a Cobalt(II/III) Redox Electrolyte
 (2013) *ACS Applied Materials & Interfaces*, 5 (20), pp. 9872-9877
Also included in line 2.2
179. Hernández-Garrido, JC; Gómez, DM; Gaona, D; Vidal, H; Gatica, JM; Sanz, O; Rebled, JM; Peiró, F; Calvino, JJ
Combined (S)TEM-FIB Insight into the Influence of the Preparation Method on the Final Surface Structure of a Co₃O₄/La-Modified-CeO₂ Washcoated Monolithic Catalyst
 (2013) *Journal of Physical Chemistry C*, 117 (25), pp. 13028-13036
Also included in line 2.2
180. Epifani, M; Díaz, R; Force, C; Comini, E; Andreu, T; Zamani, RR; Arbiol, J; Siciliano, P; Faglia, G; Morante, JR
Colloidal Counterpart of the TiO₂-Supported V₂O₅ System: A Case Study of Oxide-on-Oxide Deposition by Wet Chemical Techniques. Synthesis, Vanadium Speciation, and Gas-Sensing Enhancement
 (2013) *Journal of Physical Chemistry C*, 117 (40), pp. 20697-20705
Also included in line 1.1
181. Utama, MIB; de la Mata, M; Zhang, Q; Magen, C; Arbiol, J; Xiong, QH
The Growth of Ultralong ZnTe Micro/Nanostructures: The Influence of Polarity and Twin Direction on the Morphogenesis of Nanobelts and Nanosheets
 (2013) *Crystal Growth & Design*, 13 (6), pp. 2590-2596
Also included in line 1.2
182. Galcera, J; Friščić, T; Molins, E; Jones, W
Isostructurality in three-component crystals achieved by the combination of persistent hydrogen bonding motifs and solvent inclusion
 (2013) *Crystengcomm*, 15 (7), pp. 1332-1338
Also included in line 4.3

183. Zamani, R; Fiz, R; Pan, J; Fischer, T; Mathur, S; Morante, JR; Arbiol, J
Oxide-oxide nanojunctions in coaxial SnO₂/TiO₂, SnO₂/V₂O₃ and SnO₂/(Ti_{0.5}V_{0.5})₂O₃ nanowire heterostructures
(2013) *Crystengcomm*, 15 (22), pp. 4532-4539
Also included in line 1.1
184. Li, WH; Ibáñez, M; Zamani, RR; García-Castelló, N; Gorsse, S; Cadavid, D; Prades, JD; Arbiol, J; Cabot, A
Cu₂HgSnSe₄ nanoparticles: synthesis and thermoelectric properties
(2013) *Crystengcomm*, 15 (44), pp. 8966-8971
Also included in line 1.2
185. Paradinas, M; Munuera, C; Silien, C; Buck, M; Ocal, C
Heterogeneous nanotribological response of polymorphic self-assembled monolayers arising from domain and phase dependent friction
(2013) *Physical Chemistry Chemical Physics*, 15 (4), pp. 1302-1309
186. Rebled, JM; Foerster, M; Estradé, S; Rigato, F; Kanamadi, C; Sánchez, F; Peiró, F; Fontcuberta, J
Ti diffusion in (001) SrTiO₃-CoFe₂O₄ epitaxial heterostructures: blocking role of a MgAl₂O₄ buffer
(2013) *Physical Chemistry Chemical Physics*, 15 (41), pp. 18274-18280
Also included in line 1.1
187. Guzmán, R; Gázquez, J; Rouco, V; Palau, A; Magen, C; Varela, M; Arbiol, J; Obradors, X; Puig, T
Strain-driven broken twin boundary coherence in YBa₂Cu₃O_{7-δ} nanocomposite thin films
(2013) *Applied Physics Letters*, 102 (8), 081906
Also included in line 2.1
188. Petti, D; Albisetti, E; Reichlová, H; Gázquez, J; Varela, M; Molina-Ruiz, M; Lopeandía, AF; Olejník, K; Novák, V; Fina, I; Dkhil, B; Hayakawa, J; Martí, X; Wunderlich, J; Jungwirth, T; Bertacco, R
Storing magnetic information in IrMn/MgO/Ta tunnel junctions via field-cooling
(2013) *Applied Physics Letters*, 102 (19), 192404
Also included in line 1.1
189. Urcelay-Olabarria, I; Perez-Mato, JM; Ribeiro, JL; García-Muñoz, JL; Ressouche, E; Skumryev, V; Mukhin, AA
Incommensurate magnetic structures of multiferroic MnWO₄ studied within the superspace formalism
(2013) *Physical Review B*, 87 (1), 014419
Also included in line 1.1
190. Serrao, CR; Liu, J; Heron, JT; Singh-Bhalla, G; Yadav, A; Suresha, SJ; Paull, RJ; Yi, D; Chu, JH; Trassin, M; Vishwanath, A; Arenholz, E; Frontera, C; Železný, J; Jungwirth, T; Martí, X; Ramesh, R
Epitaxy-distorted spin-orbit Mott insulator in Sr₂IrO₄ thin films
(2013) *Physical Review B*, 87 (8), 085121
Also included in line 1.1

191. Shao, F; Hoffmann, MWG; Prades, JD; Zamani, R; Arbiol, J; Morante, JR; Varechkina, E; Rumyantseva, M; Gaskov, A; Giebelhaus, I; Fischer, T; Mathur, S; Hernández-Ramírez, F
Heterostructured p-CuO (nanoparticle)/n-SnO₂ (nanowire) devices for selective H₂S detection
 (2013) *Sensors and Actuators B-Chemical*, 181, pp. 130-135
Also included in line 1.1
192. Wadley, P; Crespi, A; Gázquez, J; Roldán, MA; García, P; Novak, V; Campion, R; Jungwirth, T; Rinaldi, C; Marti, X; Holy, V; Frontera, C; Rius, J
Obtaining the structure factors for an epitaxial film using Cu X-ray radiation
 (2013) *Journal of Applied Crystallography*, 46, pp. 1749-1754
193. Adam, R; Ballesteros-Garrido, R; Vallcorba, O; Abarca, B; Ballesteros, R; Leroux, FR; Colobert, F; Amigó, JM; Rius, J
Synthesis and structural properties of hexaaza[5]helicene containing two [1,2,3]triazolo[1,5-a]pyridine moieties
 (2013) *Tetrahedron Letters*, 54 (32), pp. 4316-4319
Also included in line 4.3
194. Cinca, N; Rebled, JM; Estradé, S; Peiró, F; Fernández, J; Guilemany, JM
Influence of the particle morphology on the Cold Gas Spray deposition behaviour of titanium on aluminum light alloys
 (2013) *Journal of Alloys and Compounds*, 554, pp. 89-96
195. Fan, JD; Fàbrega, C; Zamani, R; Shavel, A; Güell, F; Carrete, A; Andreu, T; López, AM; Morante, JR; Arbiol, J; Cabot, A
Solution-growth and optoelectronic properties of ZnO:Cl@ZnS core-shell nanowires with tunable shell thickness
 (2013) *Journal of Alloys and Compounds*, 555, pp. 213-218
Also included in line 1.2
196. López-Conesa, L; Rebled, JM; Chambrier, MH; Boulahya, K; González-Calbet, JM; Braida, MD; Dezanneau, G; Estrade, S; Peiró, F
Local Structure of Rare Earth Niobates (RE₃NbO₇, RE=Y, Er, Yb, Lu) for Proton Conduction Applications
 (2013) *Fuel Cells*, 13 (1), pp. 29-33
Also included in line 2.2
197. Miranzo, P; Ramírez, C; Román-Manso, B; Garzón, L; Gutiérrez, HR; Terrones, M; Ocal, C; Osendi, MI; Belmonte, M
In situ processing of electrically conducting graphene/SiC nanocomposites
 (2013) *Journal of the European Ceramic Society*, 33 (10), pp. 1665-1674
Also included in line 1.2
198. Rius, J; Mugnaioli, E; Vallcorba, O; Kolb, U
Application of δ recycling to electron automated diffraction tomography data from inorganic crystalline nanovolumes
 (2013) *Acta Crystallographica Section A*, 69, pp. 396-407

199. Nilsson, A; Tokushima, T; Horikawa, Y; Harada, Y; Ljungberg, MP; Shin, S; Pettersson, LGM
Resonant inelastic X-ray scattering of liquid water
 (2013) *Journal of Electron Spectroscopy and Related Phenomena*, 188, pp. 84-100
200. Morales-Verdejo, C; Martinez, I; Carey, DML; Chavez, I; Manríquez, JM; Matioszek, D; Saffon, N; Castel, A; Rivière, P; Molins, E
Synthesis and structure of some heterobimetallic complexes having a polyalkyl-s-indacenyl spacer
 (2013) *Inorganica Chimica Acta*, 394, pp. 752-756
201. Crespo, PAG; Pérez, CL; Hughes, DJ; Turrillas, X
Strain Mapping and Nanocrystallite Size Determination by Neutron Diffraction in an Aluminum Alloy (AA5083) Severely Plastically Deformed through Equal Channel Angular Pressing
 (2013) *Journal of Nanomaterials*, 404903
202. Vallcorba, O; Crespi, A; Rius, J; Miravittles, C
Use of TALP with laboratory powder diffraction data from 2D detectors
 (2013) *Powder Diffraction*, 28, pp. S481-S490
203. Barón-González, AJ; García-Muñoz, JL; Herrero-Martín, J; Frontera, C; Subías, G; Blasco, J
Ground state and the metal-insulator transition in $(Pr_{1-y} Y_y)_{1-x} Ca_x CoO_3$ ($0.45 \leq x \leq 0.55$) cobaltites
 (2013) *Journal of the Korean Physical Society*, 63 (3), pp. 791-794
Also included in line 1.1
204. Guasch, J; Fontrodona, X; Ratera, I; Rovira, C; Veciana, J
The perchlorotriphenylmethyl (PTM) radical
 (2013) *Acta Crystallographica Section C-Crystal Structure Communications*, C69, pp. 255-257
205. Ibáñez, M; Cadavid, D; Anselmi-Tamburini, U; Zamani, R; Gorsse, S; Li, WH; López, AM; Morante, JR; Arbiol, J; Cabot, A
Colloidal synthesis and thermoelectric properties of Cu_2SnSe_3 nanocrystals
 (2013) *Journal of Materials Chemistry A*, 1 (4), pp. 1421-1426
Also included in line 1.2
206. Giebelhaus, I; Varechkina, E; Fischer, T; Romyantseva, M; Ivanov, V; Gaskov, A; Morante, JR; Arbiol, J; Tyrra, W; Mathur, S
One-dimensional $CuO-SnO_2$ p-n heterojunctions for enhanced detection of H_2S
 (2013) *Journal of Materials Chemistry A*, 1 (37), pp. 11261-11268
Also included in line 1.1
207. Mugnaini, V; Paradinas, M; Shekhah, O; Roques, N; Ocal, C; Wöll, C; Veciana, J
Surface grafting of a dense and rigid coordination polymer based on tri-para-carboxy-polychlorotriphenylmethyl radical and copper acetate
 (2013) *Journal of Materials Chemistry C*, 1 (4), pp. 793-800

208. de la Mata, M; Zhou, X; Furtmayr, F; Teubert, J; Gradečak, S; Eickhoff, M; Morral, AFI; Arbiol, J
A review of MBE grown 0D, 1D and 2D quantum structures in a nanowire
 (2013) *Journal of Materials Chemistry C*, 1 (28), pp. 4300-4312
Also included in line 1.2

4.2 Theory, simulation and modelling of materials and properties at the nanoscale

209. Lemouchi, C; Iliopoulos, K; Zorina, L; Simonov, S; Wzietek, P; Cauchy, T; Rodríguez-Forteza, A; Canadell, E; Kaleta, J; Michl, J; Gindre, D; Chrysos, M; Batail, P
Crystalline Arrays of Pairs of Molecular Rotors: Correlated Motion, Rotational Barriers, and Space-Inversion Symmetry Breaking Due to Conformational Mutations
 (2013) *Journal of the American Chemical Society*, 135 (25), pp. 9366-9376
Also included in line 4.3
210. Pop, F; Auban-Senzier, P; Frackowiak, A; Ptaszyński, K; Olejniczak, I; Wallis, JD; Canadell, E; Avarvari, N
Chirality Driven Metallic versus Semiconducting Behavior in a Complete Series of Radical Cation Salts Based on Dimethyl-Ethylenedithio-Tetrathiafulvalene (DM-EDT-TTF)
 (2013) *Journal of the American Chemical Society*, 135 (45), pp. 17176-17186
Also included in line 1.2
211. Stengel, M
Microscopic response to inhomogeneous deformations in curvilinear coordinates
 (2013) *Nature Communications*, 4, 2693
212. Prosandeev, S; Wang, DW; Ren, W; Íñiguez, J; Bellaiche, L
Novel Nanoscale Twinned Phases in Perovskite Oxides
 (2013) *Advanced Functional Materials*, 23 (2), pp. 234-240
213. Ljungberg, MP; Íñiguez, J
Temperature-Dependent Classical Phonons from Efficient Nondynamical Simulations
 (2013) *Physical Review Letters*, 110 (10), 105503
214. Ren, W; Yang, Y; Diéguez, O; Íñiguez, J; Choudhury, N; Bellaiche, L
Ferroelectric Domains in Multiferroic BiFeO₃ Films under Epitaxial Strains
 (2013) *Physical Review Letters*, 110 (18), 187601
Also included in line 1.1
215. Mongillo, M; Spathis, P; Katsaros, G; De Franceschi, S; Gentile, P; Rurari, R; Cartoixa, X
PtSi Clustering in Silicon Probed by Transport Spectroscopy
 (2013) *Physical Review X*, 3 (4), 041025
Also included in line 1.2
216. Faraudo, J; Martin-Molina, A
Competing forces in the interaction of polyelectrolytes with charged interfaces
 (2013) *Current Opinion in Colloid & Interface Science*, 18 (6), pp. 517-523

217. Kimmel, AV; Íñiguez, J; Cain, MG; Sushko, PV
Neutral and Charged Oxygen Vacancies Induce Two-Dimensional Electron Gas Near SiO₂/BaTiO₃ Interfaces
 (2013) *Journal of Physical Chemistry Letters*, 4 (2), pp. 333-337
Also included in line 1.1
218. Roussel, TJ; Vega, LF
Modeling the Self-Assembly of Nano Objects: Applications to Supramolecular Organic Monolayers Adsorbed on Metal Surfaces
 (2013) *Journal of Chemical Theory and Computation*, 9 (5), pp. 2161-2169
Also included in line 4.3
219. Cazorla, C; Errandonea, D
High-Pressure, High-Temperature Phase Diagram of Calcium Fluoride from Classical Atomistic Simulations
 (2013) *Journal of Physical Chemistry C*, 117 (21), pp. 11292-11301
220. Camerel, F; Le Helloco, G; Guizouarn, T; Jeannin, O; Fourmigué, M; Frackowiak, A; Olejniczak, I; Świetlik, R; Marino, A; Collet, E; Toupet, L; Auban-Senzier, P; Canadell, E
Correlation between Metal-Insulator Transition and Hydrogen-Bonding Network in the Organic Metal δ -(BEDT-TTF)₄[2,6-Anthracene-bis(sulfonate)]·(H₂O)₄
 (2013) *Crystal Growth & Design*, 13 (11), pp. 5135-5145
Also included in line 1.2
221. Carlsson, S; Zorina, L; Allan, DR; Attfield, JP; Canadell, E; Batail, P
Robust Dirac-Cone Band Structure in the Molecular Kagome Compound (EDT-TTF-CONH₂)₆[Re₆Se₈(CN)₆]
 (2013) *Inorganic Chemistry*, 52 (6), pp. 3326-3333
222. Ferrer-Tasies, L; Moreno-Calvo, E; Cano-Sarabia, M; Aguilera-Arzo, M; Angelova, A; Lesieur, S; Ricart, S; Faraudo, J; Ventosa, N; Veciana, J
Quatsomes: Vesicles Formed by Self-Assembly of Sterols and Quaternary Ammonium Surfactants
 (2013) *Langmuir*, 29 (22), pp. 6519-6528
Also included in line 3.1
223. Umbach, TR; Fernández-Torrente, I; Ruby, M; Schulz, F; Lotze, C; Rurali, R; Persson, M; Pascual, JI; Franke, KJ
Atypical charge redistribution over a charge-transfer monolayer on a metal
 (2013) *New Journal of Physics*, 15, 083048
224. Faraudo, J; Andreu, JS; Camacho, J
Understanding diluted dispersions of superparamagnetic particles under strong magnetic fields: a review of concepts, theory and simulations
 (2013) *Soft Matter*, 9 (29), pp. 6654-6664

225. Prokhorova, TG; Zorina, LV; Simonov, SV; Zverev, VN; Canadell, E; Shibaeva, RP; Yagubskii, EB
The first molecular superconductor based on BEDT-TTF radical cation salt with paramagnetic tris(oxalato)ruthenate anion
 (2013) *Crystengcomm*, 15 (35), pp. 7048-7055
Also included in line 2.1
226. Cazorla, C; Shevlin, SA
Accuracy of density functional theory in the prediction of carbon dioxide adsorbent materials
 (2013) *Dalton Transactions*, 42 (13), pp. 4670-4676
227. Rodríguez-Fortea, A; Lluell, M; Alemany, P; Canadell, E
Factors affecting the magnetic coupling in $\text{Sr}_2\text{V}_3\text{O}_9$ type oxides: As for V substitution in the VO_4 tetrahedra and nature of the cation
 (2013) *Dalton Transactions*, 42 (44), pp. 15555-15558
Also included in line 1.1
228. López-Suárez, M; Agustí, J; Torres, F; Rurali, R; Abadal, G
Inducing bistability with local electret technology in a microcantilever based non-linear vibration energy harvester
 (2013) *Applied Physics Letters*, 102 (15), 153901
Also included in line 2.2
229. Long, SB; Lian, XJ; Cagli, C; Cartoixà, X; Rurali, R; Miranda, E; Jiménez, D; Perniola, L; Liu, M; Suñé, J
Quantum-size effects in hafnium-oxide resistive switching
 (2013) *Applied Physics Letters*, 102 (18), 183505
Also included in line 1.1
230. Diéguez, O; Aguado-Puente, P; Junquera, J; Íñiguez, J
Domain walls in a perovskite oxide with two primary structural order parameters: First-principles study of BiFeO_3
 (2013) *Physical Review B*, 87 (2), 024102
Also included in line 1.1
231. Cazorla, C; Lutsyshyn, Y; Boronat, J
Elastic constants of incommensurate solid ^4He from diffusion Monte Carlo simulations
 (2013) *Physical Review B*, 87 (21), 214522
232. Janecek, S; Aichinger, M; Hernández, ER
Two-dimensional Bloch electrons in perpendicular magnetic fields: An exact calculation of the Hofstadter butterfly spectrum
 (2013) *Physical Review B*, 87 (23), 235429
233. Bellaiche, L; Íñiguez, J
Universal collaborative couplings between oxygen-octahedral rotations and antiferroelectric distortions in perovskites
 (2013) *Physical Review B*, 88 (1), 014104
Also included in line 1.1

234. Zanolli, Z; Wojdel, JC; Íñiguez, J; Ghosez, P
Electric control of the magnetization in BiFeO₃/LaFeO₃ superlattices
 (2013) *Physical Review B*, 88 (6), 060102(R)
Also included in line 1.1
235. Stengel, M
Flexoelectricity from density-functional perturbation theory
 (2013) *Physical Review B*, 88 (17), 174106
236. Cazorla, C; Íñiguez, J
Insights into the phase diagram of bismuth ferrite from quasiharmonic free-energy calculations
 (2013) *Physical Review B*, 88 (21), 214430
Also included in line 1.1
237. Rahmedov, D; Prosandeev, S; Íñiguez, J; Bellaiche, L
Magnetoelectric signature in the magnetic properties of antiferromagnetic multiferroics: Atomistic simulations and phenomenology
 (2013) *Physical Review B*, 88 (22), 224405
Also included in line 1.1
238. Cazorla, C; Boronat, J
Possible superfluidity of molecular hydrogen in a two-dimensional crystal phase of sodium
 (2013) *Physical Review B*, 88 (22), 224501
239. Cortes-Huerto, R; Sondon, T; Saúl, A
Role of temperature in the formation and growth of gold monoatomic chains: A molecular dynamics study
 (2013) *Physical Review B*, 88 (23), 235438
240. Bristowe, NC; Stengel, M; Littlewood, PB; Artacho, E; Pruneda, JM
One-dimensional half-metallic interfaces of two-dimensional honeycomb insulators
 (2013) *Physical Review B*, 88 (16), 161411
241. Wojdel, JC; Hermet, P; Ljungberg, MP; Ghosez, P; Íñiguez, J
First-principles model potentials for lattice-dynamical studies: general methodology and example of application to ferroic perovskite oxides
 (2013) *Journal of Physics-Condensed Matter*, 25 (30), 305401
Also included in line 1.1
242. Carbonell-Coronado, C; De Soto, F; Cazorla, C; Boronat, J; Gordillo, MC
Zero-temperature phase diagram of D₂ physisorbed on graphane
 (2013) *Journal of Physics-Condensed Matter*, 25 (44), 445011
Also included in line 1.2
243. Amato, G; Cultrera, A; Boarino, L; Lamberti, C; Bordiga, S; Mercuri, F; Cartoixà, X; Ruralli, R
Molecular doping and gas sensing in Si nanowires: From charge injection to reduced dielectric mismatch
 (2013) *Journal of Applied Physics*, 114 (20), 204302
Also included in line 1.2

244. Audouard, A; Fortin, JY; Vignolles, D; Lyubovskii, RB; Zhilyaeva, EI; Lyubovskaya, RN; Canadell, E
Onsager phase factor of quantum oscillations in the organic metal θ -(BEDT-TTF)₄CoBr₄(C₆H₄Cl₂)
 (2013) *Synthetic Metals*, 171, pp. 51-55
Also included in line 1.2
245. López-Suárez, M; Rurali, R; Abadal, G
Buckling suspended graphene nanoribbons to harvest energy from noisy vibrations
 (2013) *Microelectronic Engineering*, 111, pp. 122-125
Also included in line 2.2
246. Carbonell-Coronado, C; de Soto, F; Cazorla, C; Boronat, J; Gordillo, MC
H₂ Physisorbed on Graphane
 (2013) *Journal of Low Temperature Physics*, 171 (5-6), pp. 619-625

4.3 Bottom-up strategies for assembling and preparation of functional - molecular and/or inorganic (nano)materials

247. Olid, D; Núñez, R; Viñas, C; Teixidor, F
Methods to produce B-C, B-P, B-N and B-S bonds in boron clusters
 (2013) *Chemical Society Reviews*, 42 (8), pp. 3318-3336
248. den Boer, D; Li, M; Habets, T; Iavicoli, P; Rowan, AE; Nolte, RJM; Speller, S; Amabilino, DB; De Feyter, S; Elemans, JAAW
Detection of different oxidation states of individual manganese porphyrins during their reaction with oxygen at a solid/liquid interface
 (2013) *Nature Chemistry*, 5 (7), pp. 621-627
249. Mas-Torrent, M; Rovira, C; Veciana, J
Surface-Confined Electroactive Molecules for Multistate Charge Storage Information
 (2013) *Advanced Materials*, 25 (3), pp. 462-468
Also included in line 1.2
250. Brusselle, D; Bauduin, P; Girard, L; Zaulet, A; Viñas, C; Teixidor, F; Ly, I; Diat, O
Lyotropic Lamellar Phase Formed from Monolayered θ -Shaped Carborane-Cage Amphiphiles
 (2013) *Angewandte Chemie-International Edition*, 52 (46), pp. 12114-12118
251. Aragay, G; Frontera, A; Lloveras, V; Vidal-Gancedo, J; Ballester, P
Different Nature of the Interactions between Anions and HAT(CN)₆: From Reversible Anion- π Complexes to Irreversible Electron-Transfer Processes (HAT(CN)₆=1,4,5,8,9,12-Hexaazatriphenylene)
 (2013) *Journal of the American Chemical Society*, 135 (7), pp. 2620-2627

252. Guasch, J; Grisanti, L; Souto, M; Lloveras, V; Vidal-Gancedo, J; Ratera, I; Painelli, A; Rovira, C; Veciana, J
Intra- and Intermolecular Charge Transfer in Aggregates of Tetrathiafulvalene-Triphenylmethyl Radical Derivatives in Solution
 (2013) *Journal of the American Chemical Society*, 135 (18), pp. 6958-6967
Also included in line 2.2
253. Lemouchi, C; Iliopoulos, K; Zorina, L; Simonov, S; Wzietek, P; Cauchy, T; Rodríguez-Forteza, A; Canadell, E; Kaleta, J; Michl, J; Gindre, D; Chrysos, M; Batail, P
Crystalline Arrays of Pairs of Molecular Rotors: Correlated Motion, Rotational Barriers, and Space-Inversion Symmetry Breaking Due to Conformational Mutations
 (2013) *Journal of the American Chemical Society*, 135 (25), pp. 9366-9376
Also included in line 4.2
254. Müller, C; Aghamohammadi, M; Himmelberger, S; Sonar, P; Garriga, M; Salleo, A; Campoy-Quiles, M
One-Step Macroscopic Alignment of Conjugated Polymer Systems by Epitaxial Crystallization during Spin-Coating
 (2013) *Advanced Functional Materials*, 23 (19), pp. 2368-2377
255. González-Campo, A; Amabilino, DB
Biomolecules at Interfaces: Chiral, Naturally
 (2013) *Biochirality: Origins, Evolution and Molecular Recognition*, 333, pp. 109-156
Also included in line 3.1
256. Simao, C; Mas-Torrent, M; André, V; Duarte, MT; Veciana, J; Rovira, C
Intramolecular electron transfer in the photodimerisation product of a tetrathiafulvalene derivative in solution and on a surface
 (2013) *Chemical Science*, 4 (1), pp. 307-310
257. Guasch, J; Grisanti, L; Jung, S; Morales, D; D'Avino, G; Souto, M; Fontrodona, X; Painelli, A; Renz, F; Ratera, I; Veciana, J
Bistability of Fc-PTM-Based Dyads: The Role of the Donor Strength
 (2013) *Chemistry of Materials*, 25 (5), pp. 808-814
258. Clark, L; Oró-Solé, J; Knight, KS; Fuertes, A; Attfield, JP
Thermally Robust Anion-Chain Order in Oxynitride Perovskites
 (2013) *Chemistry of Materials*, 25 (24), pp. 5004-5011
Also included in line 2.2
259. Souto, M; Guasch, J; Lloveras, V; Mayorga, P; Navarrete, JTL; Casado, J; Ratera, I; Rovira, C; Painelli, A; Veciana, J
Thermomagnetic Molecular System Based on TTF-PTM Radical: Switching the Spin and Charge Delocalization
 (2013) *Journal of Physical Chemistry Letters*, 4 (16), pp. 2721-2726
Also included in line 1.2
260. Amat, M; Ramos, C; Pérez, M; Molins, E; Florindo, P; Santos, MMM; Bosch, J
Enantioselective formal synthesis of ent-rhynchophylline and ent-isorhynchophylline
 (2013) *Chemical Communications*, 49 (19), pp. 1954-1956

261. Oró-Solé, J; Clark, L; Bonin, W; Attfield, JP; Fuertes, A
Anion-ordered chains in a d¹ perovskite oxynitride: NdVO₂N
(2013) *Chemical Communications*, 49 (24), pp. 2430-2432
262. Tasada, A; Alberti, FM; Bauzá, A; Barceló-Oliver, M; García-Raso, A; Fiol, JJ; Molins, E; Caubet, A; Frontera, A
Metallomacrocycles as anion receptors: combining hydrogen bonding and ion pair based hosts formed from Ag(I) salts and flexible bis- and tris-pyrimidine ligands
(2013) *Chemical Communications*, 49 (43), pp. 4944-4946
263. Destoop, I; Xu, H; Oliveras-González, C; Ghijssens, E; Amabilino, DB; De Feyter, S
'Sergeants-and-Corporals' principle in chiral induction at an interface
(2013) *Chemical Communications*, 49 (68), pp. 7477-7479
264. Vera, F; Mas-Torrent, M; Avci, C; Arbiol, J; Esquena, J; Rovira, C; Veciana, J
Robust molecular micro-capsules for encapsulating and releasing hydrophilic contents
(2013) *Chemical Communications*, 49 (71), pp. 7827-7829
265. Casado-Montenegro, J; Mas-Torrent, M; Otón, F; Crivillers, N; Veciana, J; Rovira, C
Electrochemical and chemical tuning of the surface wettability of tetrathiafulvalene self-assembled monolayers
(2013) *Chemical Communications*, 49 (73), pp. 8084-8086
Also included in line 1.2
266. Crivillers, N; Takano, Y; Matsumoto, Y; Casado-Montenegro, J; Mas-Torrent, M; Rovira, C; Akasaka, T; Veciana, J
Electrochemical and magnetic properties of a surface-grafted novel endohedral metallofullerene derivative
(2013) *Chemical Communications*, 49 (74), pp. 8145-8147
Also included in line 1.2
267. Lin, JB; Guo, ZX; Plas, J; Amabilino, DB; De Feyter, S; Schenning, APHJ
Homochiral and heterochiral assembly preferences at different length scales - conglomerates and racemates in the same assemblies
(2013) *Chemical Communications*, 49 (81), pp. 9320-9322
268. López-Aranguren, P; Vega, LF; Domingo, C
A new method using compressed CO₂ for the in situ functionalization of mesoporous silica with hyperbranched polymers
(2013) *Chemical Communications*, 49 (100), pp. 11776-11778
269. Konstantinović, Z; Sandiumenge, F; Santiso, J; Balcells, L; Martínez, B
Self-assembled pit arrays as templates for the integration of Au nanocrystals in oxide surfaces
(2013) *Nanoscale*, 5 (3), pp. 1001-1008
Also included in line 1.1

270. Pascu, O; Marre, S; Aymonier, C; Roig, A
Ultrafast and continuous synthesis of crystalline ferrite nanoparticles in supercritical ethanol
 (2013) *Nanoscale*, 5 (5), pp. 2126-2132
Also included in line 1.1
271. Amat, M; Arioli, F; Pérez, M; Molins, E; Bosch, J
Preparation and Double Michael Addition Reactions of a Synthetic Equivalent of the Nazarov Reagent
 (2013) *Organic Letters*, 15 (10), pp. 2470-2473
272. Badetti, E; Lloveras, V; Wurst, K; Sebastián, RM; Caminade, AM; Majoral, JP; Veciana, J; Vidal-Gancedo, J
Synthesis and Structural Characterization of a Dendrimer Model Compound Based on a Cyclotriphosphazene Core with TEMPO Radicals as Substituents
 (2013) *Organic Letters*, 15 (14), pp. 3490-3493
273. García-Simón, C; Garcia-Borràs, M; Gómez, L; Garcia-Bosch, I; Osuna, S; Swart, M; Luis, JM; Rovira, C; Almeida, M; Imaz, I; Maspoch, D; Costas, M; Ribas, X
Self-Assembled Tetragonal Prismatic Molecular Cage Highly Selective for Anionic π Guests
 (2013) *Chemistry-A European Journal*, 19 (4), pp. 1445-1456
274. Poater, J; Solà, M; Viñas, C; Teixidor, F
A Simple Link between Hydrocarbon and Borohydride Chemistries
 (2013) *Chemistry-A European Journal*, 19 (13), pp. 4169-4175
275. González-Campo, A; Ferrer-Ugalde, A; Viñas, C; Teixidor, F; Sillanpää, R; Rodríguez-Romero, J; Santillan, R; Farfán, N; Núñez, R
A Versatile Methodology for the Controlled Synthesis of Photoluminescent High-Boron-Content Dendrimers
 (2013) *Chemistry-A European Journal*, 19 (20), pp. 6299-6312
276. Amat, M; Ghirardi, E; Navío, L; Griera, R; Llor, N; Molins, E; Bosch, J
Enantio- and Diastereoconvergent Cyclocondensation Reactions: Synthesis of Enantiopure cis-Decahydroquinolines
 (2013) *Chemistry-A European Journal*, 19 (47), pp. 16044-16049
277. Calbo, J; Aragón, J; Otón, F; Lloveras, V; Mas-Torrent, M; Vidal-Gancedo, J; Veciana, J; Rovira, C; Ortí, E
Tetrathiafulvalene-Based Mixed-Valence Acceptor-Donor-Acceptor Triads: A Joint Theoretical and Experimental Approach
 (2013) *Chemistry-A European Journal*, 19 (49), pp. 16656-16664
Also included in line 1.2
278. Ferrer-Ugalde, A; Juárez-Pérez, EJ; Teixidor, F; Viñas, C; Núñez, R
Synthesis, Characterization, and Thermal Behavior of Carboranyl-Styrene Decorated Octasilsesquioxanes: Influence of the Carborane Clusters on Photoluminescence
 (2013) *Chemistry-A European Journal*, 19 (50), pp. 17021-17030

279. Roussel, TJ; Vega, LF
Modeling the Self-Assembly of Nano Objects: Applications to Supramolecular Organic Monolayers Adsorbed on Metal Surfaces
 (2013) *Journal of Chemical Theory and Computation*, 9 (5), pp. 2161-2169
Also included in line 4.2
280. Sánchez-Rodríguez, D; Farjas, J; Roura, P; Ricart, S; Mestres, N; Obradors, X; Puig, T
Thermal Analysis for Low Temperature Synthesis of Oxide Thin Films from Chemical Solutions
 (2013) *Journal of Physical Chemistry C*, 117 (39), pp. 20133-20138
Also included in line 1.1
281. Di Salvo, F; Paterakis, C; Tsang, MY; García, Y; Viñaas, C; Teixidor, F; Planas, JG; Light, ME; Hursthouse, MB; Choquesillo-Lazarte, D
Synthesis and Crystallographic Studies of Disubstituted Carboranyl Alcohol Derivatives: Prevailing Chiral Recognition?
 (2013) *Crystal Growth & Design*, 13 (4), pp. 1473-1484
282. Jana, A; Aliaga-Alcalde, N; Ruiz, E; Mohanta, S
Structures, Magnetochemistry, Spectroscopy, Theoretical Study, and Catechol Oxidase Activity of Dinuclear and Dimer-of-Dinuclear Mixed-Valence Mn^{III}Mn^{II} Complexes Derived from a Macrocyclic Ligand
 (2013) *Inorganic Chemistry*, 52 (13), pp. 7732-7746
Also included in line 1.2
283. Nava-Avendaño, J; Frontera, C; Ayllón, JA; Oró-Solé, J; Senguttuvan, P; Palacín, MR
Synthesis and Characterization of a Novel Sodium Transition Metal Oxyfluoride: NaMnMoO₃F₃·H₂O
 (2013) *Inorganic Chemistry*, 52 (17), pp. 9791-9797
Also included in line 2.2
284. Ibarlucea, B; Díez-Gil, C; Ratera, I; Veciana, J; Caballero, A; Zapata, F; Tàrraga, A; Molina, P; Demming, S; Büttgenbach, S; Fernández-Sánchez, C; Llobera, A
PDMS based photonic lab-on-a-chip for the selective optical detection of heavy metal ions
 (2013) *Analyst*, 138 (3), pp. 839-844
Also included in line 2.2
285. Galcera, J; Friščić, T; Molins, E; Jones, W
Isostructurality in three-component crystals achieved by the combination of persistent hydrogen bonding motifs and solvent inclusion
 (2013) *Crystengcomm*, 15 (7), pp. 1332-1338
Also included in line 4.1
286. Simao, C; Mas-Torrent, M; André, V; Duarte, MT; Techert, S; Veciana, J; Rovira, C
Solid state photodimerisation of tetrathiafulvalene derivatives bearing carboxylate and carboxylic acid substituents
 (2013) *Crystengcomm*, 15 (46), pp. 9878-9884

287. Mathias, JL; Arora, H; Lavi, R; Vezin, H; Yufit, D; Orio, M; Aliaga-Alcade, N; Benisvy, L
Redox-switchable tetra-copper assembly of N,N-, N,O-phenolate-phenanthroimidazolate bridging ligands
(2013) *Dalton Transactions*, 42 (7), pp. 2358-2361
288. Barceló-Oliver, M; Baquero, BA; Bauzá, A; García-Raso, A; Vich, R; Mata, I; Molins, E; Terrón, A; Frontera, A
Experimental and theoretical studies on the coordination chemistry of the N-1-hexyl substituted pyrimidines (uracil, 5-fluorouracil and cytosine)
(2013) *Dalton Transactions*, 42 (21), pp. 7631-7642
289. Fontanet, M; Rodríguez, M; Romero, I; Fontrodona, X; Teixidor, F; Viñas, C; Aliaga-Alcalde, N; Matějček, P
A water soluble Mn(II) polymer with aqua metal bridges
(2013) *Dalton Transactions*, 42 (22), pp. 7838-7841
290. Arróniz, C; Molina, J; Abás, S; Molins, E; Campanera, JM; Luque, FJ; Escolano, C
First diastereoselective [3+2] cycloaddition reaction of diethyl isocyanomethylphosphonate and maleimides
(2013) *Organic & Biomolecular Chemistry*, 11 (10), pp. 1640-1649
291. Caballero, D; Fumagalli, L; Teixidor, F; Samitier, J; Errachid, A
Directing polypyrrole growth by chemical micropatterns: A study of high-throughput well-ordered arrays of conductive 3D microrings
(2013) *Sensors and Actuators B-Chemical*, 177 (), pp. 1003-1009
Also included in line 1.2
292. Kareev, IE; Laukhina, E; Bubnov, VP; Martynenko, VM; Lloveras, V; Vidal-Gancedo, J; Mas-Torrent, M; Veciana, J; Rovira, C
Harnessing Electron Transfer from the Perchlorotriphenylmethide Anion to Y@C₈₂(C_{2v}) to Engineer an Endometallofullerene-Based Salt
(2013) *Chemphyschem*, 14 (8), pp. 1670-1675
Also included in line 1.2
293. Amat, M; Llor, N; Subrizi, F; Pérez, M; Molins, E; Bosch, J
Studies on the Regioselectivity of the Cyclization of Tryptophanol-Derived Oxazolopiperidone Lactams
(2013) *European Journal of Organic Chemistry*, (7), pp. 1246-1252
294. Salerno, A; Domingo, C
Effect of blowing agent composition and processing parameters on the low temperature foaming of poly(L-lactide/caprolactone) co-polymer by means of supercritical CO₂/ethyl lactate binary mixtures
(2013) *Journal of Supercritical Fluids*, 84, pp. 195-204
295. Gómez-Romero, P; Fraile, J; Ballesteros, B
Fractal porosity in metals synthesized by a simple combustion reaction
(2013) *RSC Advances*, 3 (7), pp. 2351-2354

296. Adam, R; Ballesteros-Garrido, R; Vallcorba, O; Abarca, B; Ballesteros, R; Leroux, FR; Colobert, F; Amigó, JM; Rius, J
Synthesis and structural properties of hexaaza[5]helicene containing two [1,2,3]triazolo[1,5-a]pyridine moieties
(2013) *Tetrahedron Letters*, 54 (32), pp. 4316-4319
Also included in line 4.1
297. Barceló-Oliver, M; Bauzá, A; Baquero, BA; García-Raso, A; Terrón, A; Molins, E; Frontera, A
Experimental and theoretical study of N¹-hexylcytosine and N¹-hexylcytosinium nitrate: the crucial role of hydrophobic and anion- π interactions
(2013) *Tetrahedron Letters*, 54 (39), pp. 5355-5360
298. Soto, M; Comalrena, H; Balduzzi, U; Guirado, G; Lloveras, V; Vidal-Gancedo, J; Sebastián, RM; Marquet, J
Activation of weak nucleophiles: polyfluorocarbamates from polyfluoroalcohols via a fast radical reaction
(2013) *Tetrahedron Letters*, 54 (47), pp. 6310-6313
299. Mata, I; Alkorta, I; Molins, E; Espinosa, E
Tracing environment effects that influence the stability of anion-anion complexes: The case of phosphate-phosphate interactions
(2013) *Chemical Physics Letters*, 555, pp. 106-109
300. Farras, P; Viñas, C; Teixidor, F
Preferential chlorination vertices in cobaltabisdicarbollide anions. Substitution rate correlation with site charges computed by the two atoms natural population analysis method (2a-NPA)
(2013) *Journal of Organometallic Chemistry*, 747, pp. 119-125
301. Pérez-Mirabet, L; Solano, E; Martínez-Julián, F; Guzmán, R; Arbiol, J; Puig, T; Obradors, X; Pomar, A; Yáñez, R; Ros, J; Ricart, S
One-pot synthesis of stable colloidal solutions of MFe₂O₄ nanoparticles using oleylamine as solvent and stabilizer
(2013) *Materials Research Bulletin*, 48 (3), pp. 966-972
Also included in line 1.1
302. Mondal, S; Chakraborty, P; Aliaga-Alcalde, N; Mohanta, S
Syntheses, crystal structures and magnetic properties of three bis(end-on azide) bridged dicopper(II) complexes derived from half-condensed ligands: Observation of the smallest Cu-azide-Cu bridge angle in dinuclear systems
(2013) *Polyhedron*, 63, pp. 96-102
303. Abu-Diet, AM; Díaz-Torres, R; Sañudo, EC; Abdel-Rahman, LH; Aliaga-Alcalde, N
Novel sandwich triple-decker dinuclear Nd^{III}-(bis-N,N'-p-bromo-salicylideneamine-1,2-diaminobenzene) complex
(2013) *Polyhedron*, 64, pp. 203-208

304. Monti, D; Ponrouch, A; Estruga, M; Palacín, MR; Ayllón, JA; Roig, A
Microwaves as a synthetic route for preparing electrochemically active TiO₂ nanoparticles
(2013) *Journal of Materials Research*, 28 (3), pp. 340-347
Also included in line 2.2
305. Malowney, J; Mestres, N; Borrise, X; Calleja, A; Guzmán, R; Llobet, J; Arbiol, J; Puig, T; Obradors, X; Bausells, J
Functional oxide nanostructures written by EBL on insulating single crystal substrates
(2013) *Microelectronic Engineering*, 110, pp. 94-99
Also included in line 1.1
306. Di Salvo, F; Teixidor, F; Viñas, C; Planas, JG
A Distinct Tetradentate N₂O₂-type Ligand: (o-Carboranyl)bis(2-hydroxymethyl)pyridine
(2013) *Zeitschrift für Anorganische und Allgemeine Chemie*, 639 (7), pp. 1194-1198
307. Sala, S; Elizondo, E; Moreno-Calvo, E; Ventosa, N; Veciana, J
Micro- and nanoformulation of APIs using CO₂ expanded solvents
(2013) *Chimica Oggi-Chemistry Today*, 31 (6), pp. 6-10