

## CURRICULUM VITAE

BENNICI Simona (42 years old)  
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### ACADEMIC QUALIFICATIONS

- HDR, University of Lyon 1, France (November 2013), Title: “*Study of hydrogen storage and production by calorimetry and thermal analysis techniques* »
- Ph.D in Industrial Chemistry, University of Milano, Italy (December 2005)  
Thesis Title: “*Development of Mono- and Binary Oxide Catalysts for NO<sub>x</sub> Abatement*”
- 2<sup>nd</sup> Level Master Degree in Physical Chemistry of Catalysis and Industrial Processes, University of Milano (June 2002)

### PROFESSIONAL EXPERIENCE

- 2016 – present     CNRS - Institut de Science des Matériaux de Mulhouse (Mulhouse, France)  
**Function:** Senior Researcher and head of the "Transfers, Reactivity, Materials for Clean Processes" team, in charge of co-directing national and international projects in the catalysis and energy storage fields. **Main research areas:** thermochemical heat storage, fatal energy saving, biosourced products valorization, catalysis.
- 2007 – 2016     CNRS - Institut de Recherche sur la Catalyse et l'Environnement de Lyon (Villeurbanne)  
**Function:** Senior researcher and head of the "Clean and Renewable Energy" team, nowadays in charge of co-directing one European, one ADEME and several ANR projects and supervising post-docs, PhD students and master students. I am responsible for the research executed and for the scientific contacts with the academic and industrial partners of the projects. Besides I am involved in the technical and financial organization of the laboratory of calorimetry. My main research results showed the high potential of applying calorimetry to hot topics in the energy field.  
**Main research areas:** development/application of calorimetric techniques, hydrogen vector, thermochemical heat storage, acid-base catalysis.
- 2006     Utrecht University – Department of Inorganic Chemistry (Utrecht, The Netherlands).  
**Function:** post-doc responsible for the development of reactor control by online spectroscopy, financed by the ASPECT consortium. Reactor controls were developed for the selective oxidation of n-butane to maleic anhydride over industrial-like vanadium phosphorous oxide catalysts and for the propane dehydrogenation over chromium oxide catalysts. Besides the future industrial

application, these studies resulted in a scientific publication in *Angewandte Chemie International Edition*.

**Research areas:** catalysis, process control, in-situ spectroscopy, propane dehydrogenation, selective oxidation of light hydrocarbons.

- 2002-2005 Milano University – Department of Physical-Chemistry (Milano, Italy).  
**Function:** PhD in industrial chemistry in the field of heterogeneous catalysis. Thesis subject: "*Development of Mono- and Binary Oxide Catalysts for NO<sub>x</sub> Abatement*". CuO-based oxide catalysts were synthesized and tested in the Selective Catalytic Reduction and in the decomposition of NO, NO<sub>2</sub> and N<sub>2</sub>O to N<sub>2</sub>. (Supervisors: Prof. A. Gervasini and V. Ragaini).  
**Research areas:** De-NO<sub>x</sub>, HC-SCR, oxide catalyst preparation and characterization.
- 2004 Institut de Recherches sur la Catalyse (IRC-CNRS) (Villeurbanne). Research internship for the determination of the surface properties of Cu/Ga and Cu/Sn bimetallic catalysts by adsorption calorimetry. 7 months. (Supervisor: Dr. Aline Auroux)
- 2002 Milano University – Department of Physical-Chemistry (Milano, Italy). Research internship on the "Synthesis of Oxide Materials with Different Acidity used as Catalyst Supports" (8 months).  
Teaching assistant in "Catalytic Materials: Characterization and application", European Master in "Chemistry of the Composite Materials and of the Industrial Formulations", Milano University.
- 2001 – 2002 Milano University – Department of Physical-Chemistry (Milano, Italy). Master internship at the Department of Physical Chemistry and Electrochemistry on the "Preparation and Study of Copper Based Catalysts on New Oxidic Supports for the SCR process of NO<sub>x</sub>. (12 months).

## AWARDS AND HONORS

- Bronze medal of the CNRS in 2011.
- National Research Excellence Award for researcher with high level scientific activity in their area of research, 2011-2014 and 2015-2018.

## RESEARCH INTERESTS

1. **Thermochemical Heat Storage:** applications to building heating (solar energy storage), to district heating networks (fatal heat recovery), storage materials development (composites), heat measurements (calorimetry)
2. **Biosourced Products Valorisation:** catalytic transformation of biosourced molecules (i.e. Guerbet reaction, aldolisation reactions, transesterification, nitrilation, ...), pyrolysis, gasification of different biomasses
3. **Depollution, Clean Processes:** Exhaust gas treatment from automotive sources (selective catalytic reduction of NO<sub>x</sub>), removal of pollutants from aqueous effluents (pharmaceutical, tobacco industry residues,...), ...

## **PROFESSIONAL ACTIVITIES**

*Reviewer* for different international journals: Applied Catalysis A, Solar Energy Materials and Solar Cells, Energies, Applied Catalysis B, International Journal of Hydrogen Energy, Catalysis Letters, Catalysis Today, ChemSusChem, Colloids and surface A, Energies, Fuel Processing and technologies, IFP journal, Journal of Catalysis, Energy and Fuels, Thermochemica Acta, ACS Catalysis, Applied Energy, Journal of Energy Storage, Journal of Thermal Analysis and Calorimetry, Inorganics, Applied Thermal Engineering, Open Chemical Engineering Journal...

*Scientific Expert* for projects submitted in the frame of:

- CNRS projects 2016, France
- GRIS 2016, Czech Republic
- Netherlands Organisation of Scientific Research Projects, 2015, The Netherlands

### **Conferences and Schools Organization Activities**

- Scientific committee of “Matériaux 2018” congress, 19-23 November 2018, Strasbourg, France.
- Scientific committee of l'IREC-2018 (The International Renewable Energy Congress), 20-22 March 2018, Hammamet, Tunisia.
- Scientific committee of the Calorimetry school 2017 in Lyon, 19-24 June 2017, Lyon, France.
- Organizer and member of the scientific committee of 11 editions of the “Summer School of calorimetry and thermal analysis” 2007-2017 in Lyon, Lyon, France (around 90 participants and 10 teachers).
- Organizer of the « 44èmes Journées de Calorimétrie et d'Analyse Thermique », JCAT44, 21-23 Mai 2013, Lyon, France.
- Organizer of the CTEC2012 congress (Calorimetry and Thermal Effects in Catalysis), 26-29 June 2012, Lyon, France.
- Organizing committee of Eurobioref school, 18-24 September 2011, Lecce, Italy.
- Organizing committee of the European Master in " Chemistry of Composite materials and Industrial Formulations", duration 6 months, in 2003 and 2005, Milano, Italy.
- Organizing committee of International congress CTEC (Calorimetry and Thermal Effects in Catalysis), 6-9 July 2004, Villeurbanne, France.

## **INVITED PRESENTATIONS**

1. 25/04/2017 - CLIMAXION "Heat Valorisation in Industry", Benfeld (France). Title: "Thermochemical Heat Storage"
2. 18-20/04/2016 - Debye Spring School 2016, Egmond aan Zee (The Netherlands) "Thermal energy storage"
3. 7/04/2016 - Journée d'application de l'analyse thermique au stockage de l'énergie thermique (AFCAT), Saint-Étienne (France) (Keynote). Title : Heat Storage Materials
4. 20-23/05/2015 - JCAT46, Montpellier (France), "Calorimetry and Thermal Analysis as Conclusive Tools in The Screening and Choice of Heat Storage Materials " (Keynote)

5. 27-30/08/2013 - 2nd Central and Eastern European Conference on Thermal Analysis and Calorimetry, CEEC-TAC2, Vilnius (Lithuania) "Thermal and calorimetric methods: application in the clean and renewable energies field"
6. 10-14/09/2007- Ninth Yugoslav Materials Research Society Conference, YUCOMAT 2007, Herceg-Novi (Serbie) (Keynote) - "NO<sub>x</sub> abatement over supported binary oxide catalysts containing CuO coupled with Ga<sub>2</sub>O<sub>3</sub> and SnO<sub>2</sub>"
7. 2/12/2013 - Pardubice University, Pardubice (Czech Republic) "Clean and renewable energy"
8. 3/12/2013 - Pardubice University, Pardubice (Czech Republic) "Calorimetry and thermal analysis methods applied to the "Clean energies" and "Renewable materials" research fields"

## **THESIS SUPERVISION**

### *Doctor of Philosophy*

1. Dylan CHAILLOT (2017/2020) – Subject: Design of new catalytic materials for the valorization of biobased products
2. Marion BRUNEAU (2017/2020) – Subject: Elaboration of hybrid composite materials for the encapsulation of molecules of interest, released under different stimuli
3. Djaouida ALLAM (2017-2020) - Subject: CO<sub>2</sub> valorisation
4. Téo POLIMANN (2015-2018) – Subject: Impact of air pollutants on the durability of materials dedicated to the thermochemical storage of solar heat for buildings
5. Aleksandra LILIC (2014-2017) - Subject: Study of catalysts for isobutene and alcohols transformation in view of biomass valorisation
6. Emeline LEFEBVRE (2012-2015) - Subject: Study and characterization of the innovative sorption couples for an inter-seasonal storage process of solar energy
8. Amira JABBARI-HICHRI (2012-2015) – Subject: Synthesis of new composites for the thermochemical heat storage
10. Jingxuan CAI (2011-2015) - Subject: Synthesis and applications of N-modified mesoporous carbons
11. Adrian MEKKI-BERRADA (2010-2013) – Subject: Production of fatty nitriles by direct reaction with ammonia: design of catalysts for operating at lower temperature
12. Hao YU (2009-2012) – Subject: Hydride materials for the irreversible or reversible storage of hydrogen
13. Dusan STOSIC (2009-2012) – Subject: Acid-base properties of catalysts for conversion of biomass
14. Reem KOURIEH (2009-2012) – Subject: Preparation and characterization of catalysts based on tungsten oxide
15. Hongying ZHAO (2007-2010) – Subject: Sulfated vanadia-based catalysts for selective oxidation of methanol to dimethoxymethane (DMM)

## SCIENTIFIC PRODUCTION :

### • Book Chapters

1. S. Bennici\*, C. Courson. *Catalysis*. M. Jeguirim, L. Limousy Ed. *Char and Carbon from Biomass - Production, Characterization and Applications*, Elsevier **2018**. Ch.8
2. B. Khiari\*, M. Jeguirim, S. Bennici, L. Limousy. *Chars combustion*. M. Jeguirim, L. Limousy Ed. *Char and Carbon from Biomass - Production, Characterization and Applications*, Elsevier **2018**. Ch.5
3. S. Bennici\*, A. Auroux. *Hydrogen and calorimetry: case studies*. A. Auroux Ed., *Calorimetry and thermal methods in catalysis*, Springer **2013**, volume 154, ISBN 978-3-642-11953-8, Chapter 11, p.409-426.
4. S. Bennici, A. Auroux\*. *Thermal analysis and calorimetric methods*. S.J. Hargreaves, S.D. Jackson, Eds., *Metal oxide catalysis*, Weinheim: WILEY-VCH Verlag GmbH & Co. Ch.9, VCH-Wiley 2009, volume 1, chapter 9, ISBN 978-3-527-31815-5, 391-441.

### • Articles in International Journals

1. T. Dahou\*, F. Defoort, S. Thiéry, M. Grateau, M. Campargue, S. Bennici, M. Jeguirim, C. Dupont - *The Influence of Char Preparation and Biomass Type on Char Steam Gasification Kinetics* - *Energies* 11 (**2018**) 2126-2141; doi:10.3390/en11082126
2. A. Borowiec, A. Lili, J-C. Morina, J.-F. Devaux, J-L. Dubois, S. Bennici, A. Auroux, M. Capron\*, F. Dumeignil - *Acrolein production from methanol and ethanol mixtures over La- and Ce-doped FeMo catalysts* - *Applied Catalysis*, 237 (**2018**) 149-157
3. S. Campisi, S. Bennici, A. Auroux, P. Carniti, A. Gervasini\* - *A rational revisiting of niobium oxophosphate catalysts for carbohydrate biomass reactions* – *Topics in Catalysis* <https://doi.org/10.1007/s11244-018-0999-x> (**2018**)
4. I. Ghouma, M. Jeguirim\*, L. Limousy, N. Bader, A. Ouederni, S. Bennici - *Factors influencing NO<sub>2</sub> adsorption/reduction on microporous activated carbon: porosity vs. surface chemistry* – *Materials* 11 (**2018**) 622-640
5. M. Jeguirim\*, M. Belhachemi, L. Limousy, S. Bennici - *Adsorption/Reduction of Nitrogen Dioxide on Activated Carbons: Textural Properties versus Surface Chemistry - A Review* - *Chemical Engineering Journal*, 347 (**2018**) 493-504
6. A. Jabbari-Hichri, S. Bennici\*, A. Auroux, - *CaCl<sub>2</sub>-containing composites as thermochemical heat storage materials* – *Solar Energy Materials and Solar Cells*, 172 (**2017**) 177-185
7. K. Haddad, M. Jeguirim\*, S. Jellali, C. Guizani, L. Delmotte, S. Bennici, L. Limousy - *Combined NMR structural characterization and thermogravimetric analyses for the assessment of the AAEM effect during lignocellulosic biomass pyrolysis* – *Energy* 134 (**2017**) 10-23
8. A. Lili, T. Wei, S. Bennici\*, J-F. Devaux, J-L. Dubois, A. Auroux\*- *A Comparative Study of Basic, Amphoteric, and Acidic Catalysts in the Oxidative Coupling of Methanol and Ethanol for Acrolein Production* – *Chem. Sus. Chem*, 10 (17) (**2017**) 3459-3472
9. I. Ghouma, M. Jeguirim\*, U. Sager, L. Limousy, S. Bennici, E. Däuber, C. Asbach, R. Ligotski, F. Schmidt, A. Ouederni - *The potential of activated carbon made of agro-industrial residues in NO<sub>x</sub> emissions abatement* - *Energies* 10 (**2017**) 1508

10. A. Jabbari-Hichri, A. Auroux, S. Bennici\* - *Effect of NaOH addition on the thermochemical heat storage capacity of nanoporous molecular sieves* - International Journal of Energy Research, 41 (2017) 1134-1149
11. A. Lilic, S. Bennici\*, J-F. Devaux, J-L. Dubois, A. Auroux\*- *Influence of catalyst acid/ base properties in acrolein production by oxidative coupling of ethanol and methanol* – Chem. Sus. Chem., 10 (2017) 1916-1930
12. D. Stosic, F. Hosoglu; S. Bennici, A. Travert, M. Capron, F. Dumeignil, J-L. Couturier; J-L. Dubois; A. Auroux\* - *Methanol and ethanol reactivity in the presence of hydrotalcites with Mg/Al ratios varying from 2 to 7* – Catalysis Communications, 89 (2017) 14-18
13. A. Jabbari-Hichri, S. Bennici\*, A. Auroux – *Effect of aluminium sulfate addition on the thermal storage performance of mesoporous SBA-15 and MCM-41 materials* - Solar Energy Materials and Solar Cells, 149 (2016) 232-241
14. J. Cai, S. Bennici\*, J. Shen, A. Auroux – *The influence of metal- and N-species addition in mesoporous carbons on the hydrogen adsorption capacity* - Materials Chemistry and Physics, 162 (2015) 142-152
15. A. Jabbari-Hichri, S. Bennici\*, A. Auroux – *Enhancing the heat storage density of silica-alumina by addition of hygroscopic salts (CaCl<sub>2</sub>, Ba(OH)<sub>2</sub>, and LiNO<sub>3</sub>)* - Solar Energy Materials and Solar Cells, 140 (2015) 351-360
16. E. Lefebvre\*, L. Fan, E. Gagniere, S. Bennici, A. Auroux, D. Mangin - *Lithium bromide crystallization in water applied for an inter-seasonal heat storage process* - Chemical Engineering Science, 133 (2015) 2-8
17. J. Quesada, L. Faba, E. Diaz, S. Bennici, A. Auroux, S. Ordonez\*- *Role of surface intermediates in the deactivation of Mg-Zr mixed oxides in acetone self-condensation: a combined DRIFT and ex-situ characterization approach* – J. Catal. 329 (2015) 1-9
18. J. Cai, S. Bennici, J. Shen, A. Auroux\*- *Applications of mesoporous carbon - supported metal catalysts in conversion reactions of aromatic compounds: influence of N addition in the support* – React. Kinet. Mech. Cat., 115 (2015) 263-282
19. J. Cai, S; Bennici, J. Shen, A. Auroux\*- *The acid-base properties of nitrogen-containing mesoporous carbon materials* - Microporous & Mesoporous Materials, 212 (2015) 156-168.
20. S. García-Fernández\*, I. Gandarias, J. Requies, M.B. Güemez, S. Bennici, A. Auroux, P.L. Arias - *New approaches to the Pt/WO<sub>x</sub>/Al<sub>2</sub>O<sub>3</sub> catalytic system behavior for the selective glycerol hydrogenolysis to 1,3-propanediol*, J. Catal. 323 (2015) 65-75.
21. A. Jabbari-Hichri, S. Bennici\*, A. Auroux - *Water sorption heats on silica-alumina based composites for interseasonal heat storage* - J. Therm. Anal. Cal., 118 (2014) 1111-1118.
22. H. Yu, S. Bennici\*, A. Auroux - *Hydrogen storage and release: kinetic and thermodynamic studies of MgH<sub>2</sub> activated by transition metal nanoparticles* - Int. J. Hydrogen Energy, 39 (2014) 11633-11641.
23. J. Cai, S. Bennici, J. Shen, A. Auroux\* - *Study of phenol and nicotine adsorption on nitrogen-modified mesoporous carbons* - Water, Air, & Soil Pollution, 225(9) (2014) Article 2088.
24. R. Bouarab\*, S. Bennici, C. Mirodatos, A. Auroux - *Hydrogen production from the water-gas shift reaction on iron oxide catalysts*, J. Catalysts, (2014), Article ID 612575, 6 pages, <http://dx.doi.org/10.1155/2014/612575>

25. D. Stosic, S. Bennici, V. Pavlovic, V. Rakic, A. Auroux\*- *Tuning the acidity of niobia: characterization and catalytic activity of Nb<sub>2</sub>O<sub>5</sub>-MeO<sub>2</sub> (Me = Ti, Zr, Ce) mesoporous mixed oxides*, Materials Chemistry and Physics, 146 (2014) 337-345.
26. G. Whiting, D. Grondin, D. Stosic, S. Bennici, A. Auroux\*- *Zeolite-MgCl<sub>2</sub> composites as potential heat storage materials: Influence of zeolite properties on heats of water sorption* - Solar Energy Materials and Solar Cells, 128 (2014) 289-295.
27. D. Stosic, S. Bennici, S. Sirotin, P. Stelmachowski, J-L. Couturier, J-L. Dubois, A. Travert, A. Auroux\*- *Examination of acid-base properties of solid catalysts for gas phase dehydration of glycerol: FTIR and adsorption microcalorimetry studies*, Catal. Today, 226 (2014) 167-175.
28. M. León, L. Faba, E. Díaz, S. Bennici, A. Vega, S. Ordóñez\*, A. Auroux - *Consequences of MgO activation procedures on its catalytic performance for acetone self-condensation*, Appl. Catal. B: Environ., 147 (2014) 796-804.
29. A. Mekki-Berrada, S. Bennici, J-L. Dubois, A. Auroux\*- *Experimental Solid-Liquid Phase Equilibria of a Methyl Ester/ Amide/ Nitrile Ternary System by DSC*, J. Am. Oil Chem. Soc 90 (2013) 1621-1627.
30. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J-L. Couturier, J-L. Dubois, A. Auroux\*- *Ammoniation-dehydration of fatty acids into nitriles: heterogeneous or homogeneous catalysis?* Chem. Sus. Chem., 6(8) (2013) 1478-1489.
31. R. Kourieh, S. Bennici, A. Auroux\*- *Tuning of the acid-base properties of primary Me<sub>2</sub>O<sub>3</sub> (Me = Al, Ga, In) and binary (ZrO<sub>2</sub>-Me<sub>2</sub>O<sub>3</sub>) (Me = B, Al, Ga, In) oxides by adding WO<sub>3</sub>: A calorimetric study*, Thermochim. Acta 567 (2013) 1-7.
32. T. Caillot\*, Z. Salama, N. Chanut, F.J. Cadete Santos Aires, S. Bennici, A. Auroux - *Hydrothermal synthesis and characterization of zirconia based catalysts*, J. Solid St. Chem., 203 (2013) 79-85.
33. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J.L. Couturier, J.L. Dubois, A. Auroux\*- *Fatty acid methyl esters into nitriles : acid-base properties for enhanced catalysts*, J. Catal. 306 (2013) 30-37.
34. G. Whiting, D. Grondin, S. Bennici, A. Auroux\*- *Heats of water sorption studies on zeolite-MgSO<sub>4</sub> composites as potential thermochemical heat storage materials*, Solar Energy Materials and Solar Cells, 112 (2013) 112-119.
35. R. Kourieh, L. Retailleau, S. Bennici, A. Giroir-Fendler, A. Auroux\*- *Influence of the acidic properties of ZrO<sub>2</sub> based mixed oxides catalysts in the selective reduction of NO<sub>x</sub> with n-decane*, Catal. Letters, 143 (2013) 74-83.
36. R. Kourieh, V. Rakic, S. Bennici, A. Auroux\*- *Relation between surface acidity and reactivity in fructose conversion into 5-HMF using tungstated zirconia catalysts*, Catal. Commun., 30 (2013) 5-13.
37. D. Stosic, S. Bennici, S. Sirotin, C. Calais, J-L. Couturier, J-L. Dubois, A. Travert, A. Auroux\*- *Glycerol dehydration over calcium phosphate catalysts: effect of acidic-basic features on catalytic performance*, Appl. Catal. A: gen., 447-448 (2012) 124-134.
38. D. Stosic, S. Bennici, V. Rakic, A. Auroux\*- *CeO<sub>2</sub>-Nb<sub>2</sub>O<sub>5</sub> mixed oxide catalysts: preparation, characterization and catalytic activity in fructose dehydration reaction* – Catal. Today, 1 (2012) 160-168.
39. A. Mekki-Berrada, D. Grondin, S. Bennici, A. Auroux\*- *Design of amphoteric mixed oxides of zinc and IIIA elements (Al, Ga, In): migration effects on basic features*, Phys. Chem. Chem. Phys., 14(12) (2012) 4155-4161.
40. R. Kourieh, S. Bennici, M. Marzo, A. Gervasini, A. Auroux\*- *Investigation of the WO<sub>3</sub>/ZrO<sub>2</sub> surface acidic properties for the aqueous hydrolysis of cellobiose*, Catal. Commun., 19 (2012) 119-126.
41. A. Gervasini\*, P. Carniti, S. Bennici - *Catalytic performances of CuGa and CuSn binary oxide catalysts towards N<sub>2</sub>O decomposition and reduction*, React. Kinet. Mechan. Catal. 105 (2012) 53-67.

42. R. Kourieh, S. Bennici, A. Auroux\* - *Acid and redox properties of tungstated zirconia catalysts*, React. Kinet. Mechan. Catal. 105 (2012) 101-114.
43. D. Stosic, S. Bennici, J-L. Couturier, J-L. Dubois, A. Auroux\* - *Influence of surface acid-base properties of zirconia and titania based catalysts on the product selectivity in gas phase dehydration of glycerol*, Catal. Commun. 17 (2012) 23-28.
44. S. Bennici, H. Yu, E. Obeid, A. Auroux\* - *Highly active heteropolyanions supported Co catalysts for fast hydrogen generation in NaBH<sub>4</sub> hydrolysis*, Int. J. Hydrogen Energy, 36 (2011) 7431-7442.
45. J. Delmas\*, L. Laversenne, I. Rougeaux, P. Capron, A. Garron, S. Bennici, D. Świerczyński, A. Auroux - *Improved hydrogen storage capacity through hydrolysis of solid NaBH<sub>4</sub> catalyzed with cobalt boride*, Int. J. Hydrogen Energy, 36 (2011) 2145-2153.
46. L. Damjanovic, M. Majchrzak, S. Bennici, A. Auroux\* - *Determination of the heat evolved during sodium borohydride hydrolysis catalyzed by Co<sub>3</sub>O<sub>4</sub>*, Int. J. Hydrogen Energy, 36 (2011) 1991-1997.
47. H. Zhao, S. Bennici, J. Cai, J. Shen, A. Auroux\* - *Influence of the metal oxide support on the surface and catalytic properties of sulphated vanadia catalysts for selective oxidation of methanol*, J. Catal., 274 (2010) 259-272.
48. S. Bennici, A. Garron, A. Auroux\* - *Maximizing the hydrogen yield in the catalyzed hydrolysis of pure borohydride powder*, Int. J. Hydrogen Energy, 35 (2010) 8621-8625.
49. H. Zhao, S. Bennici, J. Shen, A. Auroux\* - *Influence of the host oxide of sulphated-titania catalysts on partial oxidation methanol reaction*, Appl. Catal. A: Gen., 385 (2010) 224-231.
50. M. Leon, E. Diaz, S. Bennici, A. Vega, S. Ordonez\*, A. Auroux - *Adsorption of CO<sub>2</sub> on hydrotalcite-derived mixed oxides: sorption mechanisms and consequences on the adsorption irreversibility*, Ind. Eng. Chem. Res., 49 (2010) 3663-3671.
51. H. Zhao, S. Bennici, J. Cai, J. Shen, A. Auroux\* - *Effect of vanadia loading on the acidic, redox and catalytic properties of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub> and V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts for partial oxidation of methanol*, Catal. Today, 152 (2010) 70-77
52. S. Boumaza, A. Auroux, S. Bennici, A. Boudjemaa, M. Trari, A. Bouguelia, R. Bouarab\* - *Water gas shift reaction over the CuB<sub>2</sub>O<sub>4</sub> spinel catalysts*, React. Kinet. Mechan. Catal., 100 (2010) 145-151.
53. H. Zhao, S. Bennici, J. Shen, A. Auroux\* - *Nature of surface sites of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts and reactivity in selective oxidation of methanol to dimethoxymethane*, J. Catal., 272 (2010) 176-189.
54. L. Damjanovic, S. Bennici, A. Auroux\* - *A direct measurement of the heat evolved during the sodium and potassium borohydride catalytic hydrolysis*, J. Power Sources, 195 (2010) 3284-3292.
55. R. Kourieh, S. Bennici, A. Auroux\* - *Study of acidic commercial WO<sub>x</sub>/ZrO<sub>2</sub> catalysts by adsorption microcalorimetry and thermal analysis techniques*, J. Therm. Anal. Calorim., 99 (2010) 849-853.
56. H. Zhao, S. Bennici, J. Shen, A. Auroux\* - *Calorimetric study of the acidic character of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts used in methanol oxidation to dimethoxymethane*, J. Therm. Anal. Calorim., 99 (2010) 843-847.
57. A. Garron, S. Bennici, A. Auroux\* - *In-situ generated nanocatalysts for NaBH<sub>4</sub> hydrolysis studied by liquid phase calorimetry: influence of the nature of the metal*, Appl. Catal. A: Gen., 378 (2010) 90-95.
58. G. Postole, S. Bennici, A. Auroux\* - *Calorimetric study of the reversibility of CO pollutant adsorption on high loaded Pt/ carbon catalysts used in PEM fuel cells*- Appl. Catal. B: Environ., 92 (2009) 307-317
59. H. Zhao, S. Bennici, J. Shen, A. Auroux\* - *Surface and catalytic properties of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts for the oxidation of methanol prepared by various methods*, J. Mol. Catal. A, 309 (2009) 28-34
60. H. Zhao, S. Bennici, J. Shen, A. Auroux\* - *The influence of the preparation method on the structural, acidic and redox properties of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts*, Appl. Catal. A: Gen., 356 (2009) 121-128



61. A. Garron, D. Swierczynski, S. Bennici\*, A. Auroux\* - *New insights into the mechanism of H<sub>2</sub> generation through NaBH<sub>4</sub> hydrolysis on Co based nano-catalysts studied by differential reaction calorimetry* – Int. J. Hydrogen Energy, 34 3 (2009) 1185-1199
62. J. Andrieux\*, D. Swierczynski, L. Laversenne, A. Garron, S. Bennici, C. Goutaudier, P. Miele, A. Auroux, B. Bonnetot - *A multifactor study of catalyzed hydrolysis of solid NaBH<sub>4</sub> on cobalt nanoparticles: thermodynamics and kinetics* - Int. J. Hydrogen Energy, 34 (2009) 938-951
63. R. Bouarab\*, A. Boudjema, M. Trari, S. Bennici, A. Auroux - *Influence du support sur la structure cristalline, les propriétés acido-basiques et l'activité des systèmes à base de fer en réaction CO + H<sub>2</sub>O* - C. R. Chim., 12 (2009) 527-532
64. A. Gervasini\*, S. Bennici, A. Auroux, C. Guimon - *Surface acidic properties of supported binary oxides containing CuO coupled with Ga<sub>2</sub>O<sub>3</sub> and SnO<sub>2</sub> studied by complementary techniques* - Appl. Catal. A: Gen., 331 (2007) 129-137
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72. S. Bennici, P. Carniti, A. Gervasini\* - *Bulk and Surface Properties of Dispersed CuO Phases in Relation with Activity of NO<sub>x</sub> Reduction* – Catal. Lett., 98 (2004) 187-194
73. S. Bennici, A. Gervasini\*, N. Ravasio, F. Zaccheria - *Optimization of Tailoring of CuO<sub>x</sub> Species of Silica Alumina Supported Catalysts for the Selective Catalytic Reduction of NO<sub>x</sub>* – J. Phys. Chem. B, 107 (2003) 5168-5176
74. S. Bennici, A. Gervasini\*, V. Ragaini - *Preparation of Highly Dispersed CuO Catalysts on Oxide Supports for de-NO<sub>x</sub> Reactions* - Ultrason. Sonochem., 10 (2003) 61-64

- **Peer reviewed proceedings**

1. T. Polimann\*, M. Ondarts, E. Gonze, N. Le Pierres, S. Bennici, A. Auroux - *Study of Pollutants impact on building solar heat storage adsorbent materials* – Full paper at IEEEES-10, Katowice (Polland), 1-4/07/2018
2. E. Lefebvre\*, E. Gagniere, S. Bennici, A. Auroux, D. Mangin - *Study of lithium bromide crystallization in water in a project of inter-seasonal heat storage process* – Extended abstract ISIC 2014, Lyon (France), 16-19/09/2014

3. E. Lefebvre, E. Gagniere, S. Bennici, A. Auroux, D. Mangin\* - *Etude des propriétés thermodynamiques de solutions salines dans le cadre d'un procédé de stockage inter-saisonnier de l'énergie solaire* – Extended abstract of Congrès Français de Thermique, Lyon (France), 3-6/06/**2014**
4. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin\*, A. Auroux - *Hydration characteristics of lithium, zinc, potassium and sodium salts* - Edited by: David, N; Jaubert, JN; Privat, R. Conference: 39th Edition of the Joint European Days on Equilibrium between Phases (JEEP), Nancy (France), 19-21/03/**2013** Book Series: MATEC Web of Conferences Volume: 3 Article Number: UNSP 01003 Published: 2013
5. D. Stosic, R. Kourieh, V. Rakic, S. Bennici, A. Auroux\* - *Key role of surface acidity in clean catalyzed processes for biofuel precursor production*. Prep. Pap. -Am. Chem. Soc., Div. Fuel Chem . , 243 rd ACS National Meeting, San Diego, California, USA, 25-29/03/**2012**.
6. G. Postole, S. Bennici\*, A. Auroux - *Poisoning by CO of Pt/C commercial catalysts used in PEMFCs. A microcalorimetric study.*, Proceedings of FDFC, Grenoble, 19-21/01/**2011**.
7. B. Dragoi, E. Dimitriu, S. Bennici, A. Auroux\* - *Acidic and adsorptive properties of Al modified SBA-15 samples* – Proceedings of 4<sup>th</sup> Intern. FEZA Conference, A. Gedeon, P. Massiani, F. Babboneau Eds., Elsevier, Paris. Stud. Surf. Sci. Catal., 174 (**2008**) 953-956.

- **Oral communications at Congresses, Symposiums**

International:

1. T. Polimann, M. Ondarts, E. Gonze, N. Le Pierres, S. Bennici, A. Auroux - *Study of Pollutants impact on building solar heat storage adsorbent materials* – The 10th International Exergy, Energy and Environment Symposium (IEEES-10), Katowice (Polland), 1-4/07/**2018**
2. M. Jeguirim, L. Limousy, K. Thabet, L. Josien, L. Michelin, C. Vaultot, S. Bennici - *Effect of Mg and K inorganic species on the chars' properties derived from grape marc pyrolysis* - 6th International Conference on Sustainable Solid Waste Management, Naxos Island (Greece), 13–16/06/**2018**
3. A. Ibn Ferjani, M. Jeguirim, N. Thevenin, S. Jellali, H. Arkout, S. Bennici, L. Limousy - *Soil amendment with pyrolysed grape marc residue: a circular economy study* - 6th International Conference on Sustainable Solid Waste Management, Naxos Island (Greece), 13–16/06/**2018**
4. S. Bennici, P. Dutournié - *Challenges and upscale in thermochemical energy storage: applications and perspectives* - The 9th International Renewable Energy Congress (IREC 2018), Hammamet (Tunisia), 20-22/03/**2018**
5. K. Haddad, M. Jeguirim, L. Limousy, S. Bennici - *Alkaline and alkaline earth metals (AAEM) impact on the gasification of lignocellulose-derived chars* - The 9th International Renewable Energy Congress (IREC 2018), Hammamet (Tunisia), 20-22/03/**2018**
6. S. Bennici, A. Auroux - *CaCl<sub>2</sub>/bentonite composite: water sorption capacity and kinetics for heat storage applications* - 2nd International and Interdisciplinary Symposium, Clays and Ceramics, Riga (Latvia), 29- 31/01/**2018**
7. A. Lilic, V. Folliard, T. Wei, S. Bennici, J-F Devaux, J-L. Dubois, A. Auroux – *Comparison of basic, amphoteric and acidic catalysts in the oxidative coupling of a mixture of methanol and ethanol for acrolein production* – 13<sup>th</sup> European Congress on Catalysis, EUROPACAT 2017, Firenze (Italie), 27-31/08/**2017**

8. S. Bennici, A. Auroux, P. Carniti, A. Gervasini - *Acid properties of niobium oxophosphate catalysts and their use in catalytic hydrolysis of carbohydrates* - 13<sup>th</sup> European Congress on Catalysis, EUROPACAT 2017, Firenze (Italie), 27-31/08/**2017**
9. S. Bennici, A. Auroux - *Thermochemical storage composites: impact of salts and supports*- EMR2017, Lisbonne (Portugal), 5-7/04/**2017**
10. A. Lilić, S. Bennici, J-F Devaux, J-L. Dubois, A. Auroux – *Acrolein direct synthesis from methanol and ethanol on hybrid FeMoO<sub>x</sub> - Na,K,Ca,Mg/SiO<sub>2</sub> oxide catalysts* – 6<sup>th</sup> EUCHEMS Chemistry congress, Sevilla (Spain), 11-15/09/**2016**
11. A. Auroux, S. Bennici – *Calorimetry and thermal analysis as versatile tools for the study of catalysts and materials used in the field of clean and renewable energies* – CCTA12, Zakopane (Polland), 6-10/09/**2015**
12. D. Stošić, F. Hosoglu, S. Bennici, A. Travert, M. Capron, J. Faye, J.-L. Couturier, J.-L. Dubois, F. Dumeignil, A. Auroux - *Synthesis of 1-butanol and 1-propanol from the mixture of methanol and ethanol in the presence of hydrotalcites as basic catalysts* - 12th European Congress on Catalysis – EuropaCat-XI, Kazan (Russia), 30/08-04/09/**2015**
13. E. Lefebvre, E. Gagniere, S. Bennici, A. Auroux, D. Mangin - *Development of a new material for an interseasonal heat storage process of solar energy* – EMR2015, Madrid (Spain), 25-27/02/**2015**
14. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Zeolite-type materials with high heat capacities for thermal energy storage*- EMR2015, Madrid (Spain), 25-27/02/**2015**
15. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J-L. Dubois, A. Auroux - *High added value chemicals from non-edible biomass oil: low temperature catalysis* - Ecochem, International Conference and Exhibition on Sustainable Chemistry and Engineering, Stream 8, Technical Innovation Seminars, Basel (Switzerland) , 19-21/11/**2013**.
16. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin, A. Auroux - *Thermodynamic studies of water absorption of ternary systems containing zinc bromide applied in solar heat storage process*, EURO THERM Seminaire N°100, Tarragona (Spain), 21-23/07/**2013**
17. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Comparative study of thermochemical heat storage composites for building applications* - Solar Energy for World Peace, Istanbul (Turkey), 17-18/08/**2013**
18. D. Stosic, S. Bennici, S. Sirotin, C. Calais, J-L. Couturier, J-L. Dubois, A. Travert, A. Auroux - *Tuning the selectivity in glycerol dehydration reaction by precise control of acid-base features of solid catalysts* - ABC-7, Tokyo (Japan), 12-15/05/**2013**
19. D. Stosic, S. Bennici, S. Sirotin, C. Calais, J-L. Couturier, J-L. Dubois, A. Travert, A. Auroux - *Tuning the selectivity in glycerol dehydration reaction by precise control of acid-base features of solid catalysts* - 23<sup>rd</sup> NAM, Louisville (USA), 2-7/06/**2013**
20. O. Otman, D. Stosic, S. Bennici, A. Auroux - *Active acid sites of solid catalysts in aqueous phase* - 23<sup>rd</sup> NAM, Louisville (USA), 2-7/06/**2013**
21. G. Whiting, S. Bennici, A. Auroux - *Development of salt hydrate-zeolite composite materials for thermochemical seasonal heat storage* – CTEC 2012, Lyon (France), 26-29/06/**2012**
22. T. Caillot, Z. Salama, N.Chanut, S. Bennici, A. Auroux - *Microwave hydrothermal synthesis and characterization of zirconia based catalysts* - CTEC 2012, Lyon (France), 26-29/06/**2012**
23. D. Stosic, R. Kourieh, V. Rakic, S. Bennici, A. Auroux - *Key role of surface acidity in clean catalyzed processes for biofuel precursor production* - 243 ACS, San Diego (USA), 25-29/12/**2011**

24. R. Kourieh, D. Stosic, V. Rakic, S. Bennici, A. Auroux - *Influence of the acid-base properties of oxide catalysts in fructose dehydration to 5-HMF* - 12th European Meeting on Environmental Chemistry, EMEC 12, Clermont-Ferrand (France), 7-10/12/**2011**
25. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J-L. Dubois, A. Auroux – *Development of catalysts for production of fatty nitriles at low temperature* – Europacat X Conference, Glasgow (UK), 28/08-2/09/**2011**
26. S. Bennici, H. Yu, A. Auroux – *Calorimetric study of hydrogen generation by NaBH<sub>4</sub> hydrolysis in presence of heteropolyanions supported Co catalysts* - 10th Mediterranean Conference on Calorimetry and Thermal Analysis, Porto (Portugal) , 24-27/06/**2011**
27. D. Stosic, V. Rakic, S. Bennici, A. Auroux – *CeO<sub>2</sub>-Nb<sub>2</sub>O<sub>5</sub> mixed-oxide catalyst: preparation, characterization and catalytic activity* – g5symposium 2010, Riccione (Italy), 8-10/05/**2011**
28. A. Mekki-Berrada, S. Bennici, A. Auroux – *Adsorption calorimetry as a tool to tune the acid-base properties of amphoteric oxides* - 10th European Symposium on Thermal Analysis and Calorimetry, ESTAC-10, Rotterdam (The Netherlands), 22-27/08/**2010**
29. D. Stosic, V. Rakic, S. Bennici, A. Auroux – *Preparation and surface properties of CeO<sub>2</sub>-Nb<sub>2</sub>O<sub>5</sub> mixed-oxide catalysts* – 12<sup>nd</sup> Yugoslav Materials Research Society Conference, YUCOMAT 2010, Herceg-Novci (Montenegro), 6—10/09/**2010**
30. G. Postole, S. Bennici, A. Auroux - *The poisoning level by various pollutants of Pt/C commercial catalysts used in PEMFC* - 5th IEESE, Pamukkale (Turkey) 27-30/06/**2010**
31. G. Postole, S. Bennici, A. Auroux - *Deactivation and poisoning of Pt/C fuel cell catalysts studied by adsorption microcalorimetry* - 11<sup>th</sup> International Symposium on Catalyst Deactivation, Delft (The Netherlands), 25-28/10/**2009**
32. M. Majchrzak, S. Bennici, L. Damjanovic, A. Auroux - *Calorimetric and kinetics studies for the catalyzed hydrolysis of borohydrides*- 9<sup>th</sup> Mediterranean Conference on Calorimetry and Thermal Analysis, Marseille (France), 15-18/06/**2009**
33. H. Zhao, S. Bennici, J. Shen, A. Auroux - *Acidic and catalytic properties of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts prepared by various methods*- 6th world congress on Catalysis by Acids and Bases, Genova (Italy), 10-14/05/**2009**
34. H. Zhao, S. Bennici, J. Shen, A. Auroux - *Improved V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup> catalysts for the selective oxidation of methanol to dimethoxymethane* - 9th European Meeting on Environmental Catalysis EMEC9, Girona (Spain), 3-6/12/**2008**
35. D. Swierczynski, A. Garron, S. Bennici, A. Auroux - *Hydrogen generation through NaBH<sub>4</sub> hydrolysis on a nano Co based catalyst: formation and evolution of a Co-B active phase* - E-MRS fall Meeting 2008, Warsaw (Poland), 15-19/09/**2008**
36. H. Zhao, S. Bennici, J. Shen, A. Auroux - *Influence of the preparation method on the properties of V<sub>2</sub>O<sub>5</sub>-TiO<sub>2</sub>/SO<sub>4</sub><sup>2-</sup>* - Tenth Yugoslav Materials Research Society Conference, YUCOMAT 2008, Herceg-Novci (Montenegro),8-12/09/**2008**
37. P. Lignier, B. Jouguet, S. Bennici, A. Auroux, J.L. Rousset, V. Caps - *Implication of the support in the Au/TiO<sub>2</sub>-catalyzed aerobic epoxidation of stilbene* - 5<sup>th</sup> International Conference in Environmental Catalysis, Belfast (UK), 31/08-3/09/**2008**
38. B. Jouguet, P. Lignier, S. Bennici, V. Caps, A. Auroux - *An in-depth study of supported nanogold oxidation catalysts using adsorption calorimetry and thermal analysis techniques coupled with mass spectrometry* - JCAT-STK-GEFTA trilateral meeting, Mulhouse (France), 18-20/06/**2008**

39. A. Auroux, S. Bennici - *The use of coupling microcalorimetry to other techniques to study catalyst surfaces and catalytic processes* - JCAT-STK-GEFTA trilateral meeting, Mulhouse (France), 18-20/06/**2008**
40. P. Lignier, B. Jouguet, S. Bennici, A. Auroux, J.L. Rousset, V. Caps - *Aerobic liquid phase epoxidation of stilbene on Au/TiO<sub>2</sub> catalysts at low-temperature and atmospheric pressure: towards a mechanism* - International Symposium on Catalysis for Clean Energy and Sustainable Chemistry (CCESC), Madrid, (Spain), 7-20/06/**2008**
41. A. Garron, D. Swierczynski, S. Bennici, A. Auroux - *La calorimétrie en phase liquide : une méthode avancée pour l'étude du mécanisme de production d'hydrogène par hydrolyse de NaBH<sub>4</sub>* - Congrès GECat 2008, Hammamet (Tunisia), 26/05-1/06/**2008**
42. R. Bouarab, A. Boudjema, S. Bennici, A. Auroux - *Influence du support sur la structure cristalline et l'activité catalytique des systèmes à base de fer en réaction CO+H<sub>2</sub>O* – Congrès GECat 2008, Hammamet (Tunisia), 26/05-1/06/**2008**
43. C. Messi, S. Bennici, A. Gervasini, P. Carniti - *Influenza della natura del supporto (ossido e fosfato di Niobio) sulle proprietà chimiche e catalitiche della fase dispersa CuO* - 22° Congresso Nazionale SCI 2006, Divisione di Chimica Fisica, Firenze (Italy), 10-15/09/**2006**
44. S. Bennici, A. Gervasini, A. Auroux - *Properties and Catalytic Activity in NO<sub>x</sub> abatement of Cu/Sn and Cu/Ga Bimetallic Oxide Catalysts Supported on Silica-Alumina* - The Sixth European Meeting on Environmental Chemistry (EMEC6), Beograd (Serbia et Montenegro), 6-10/09/**2005**
45. S. Bennici, A. Auroux, A. Gervasini, C. Guimon - *Surface Properties of Nanosized Cu/Sn and Cu/Ga Bimetallic Oxide Catalysts Supported on Silica-Alumina* - Europacat VII Conference, Sofia (Bulgaria), 28/08-1/09/**2005**
46. A. Gervasini, S. Bennici, V. Ragaini - *Support Influence on the CuO-based Catalyst Activity for the NO<sub>x</sub> Decomposition, Reduction, and Oxidation Reactions* - Europacat VII Conference, Sofia (Bulgaria), 28/08-1/09/**2005**
47. S. Bennici, A. Gervasini – *Qualitative and quantitative study of copper based catalysts using TPR as bulk and surface technique* – C.T.E.C., Calorimetry and Thermal Effects in Catalysis, Lyon (France), 6-9/07/**2004**
48. S. Bennici, M. Lazzarin, A. Gervasini, P. Carniti, V. Ragaini – *Influence of the Support Acidity on de-NO<sub>x</sub> Activity of Nanosized CuO Catalysts* - 21° Congresso Nazionale SCI 2003, Divisione di Chimica Industriale, Catalisi e Processi di Chimica Industriale, Torino (Italy), 22-27/06/**2003**
49. A. Gervasini, S. Bennici, P. Carniti - *Determination of the Acidic Properties of Modified Silicas by Thermogravimetric Analysis* – 21° Congresso Nazionale SCI 2003, Divisione di Chimica Fisica, Torino (Italy), 22-27/06/**2003**

National:

1. T. Polimann, S. Bennici, M. Ondarts, E. Gonze, A. Auroux, N. Le Pierres - *Impact des polluants de l'air sur les matériaux de stockage thermo-chimique de la chaleur* – Matériaux 2018, Strasbourg (France), 19-23/11/**2018**
2. D. Chaillot, S. Bennici, J. Brendlé - *Élaboration d'hybrides organique-inorganique de structure de type saponite par voie sol-gel : étude du mécanisme de formation* - Matériaux 2018, Strasbourg (France), 19-23/11/**2018**
3. K. Frikha\*, L. Limousy, S. Bennici<sup>1</sup>, L. Josien, L. Michelin, L. Vidal, J. Bouaziz, K. Chaari, M. Jeguirim - *Synthèse de catalyseurs à base de métaux de transition et d'alumine par combustion chimique assistée*

*par micro-ondes : tests de réactivité pour l'oxydation du monoxyde de carbone* - Matériaux 2018, Strasbourg (France), 19-23/11/**2018**

4. T. Polimann, N. Le Pierres, M. Ondarts, E. Gonze, S. Bennici, A. Auroux - *Impact des polluants de l'air sur la durabilité de matériaux dédiés au stockage de la chaleur solaire pour le bâtiment* - Journée Scientifique du CODEGEPR, Grenoble (France) 17/11/**2016**
5. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Thermochemical heat storage in zeolitic materials* - JCAT2016, Anglet (France), 17-20/05/**2016**
6. A. Lilić, T. Wei, S. Bennici, J-F Devaux, J-L. Dubois, A. Auroux - *Gas-phase production of acrolein from a mixture of alcohols on silica-supported basic oxide catalysts: influence of acid/base features* - Journée scientifique de la SCF Rhone-Alpes, Grenoble (France), 9/06/**2016**
7. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Effect of aluminium sulfate on the thermal storage performance of mesoporous SBA-15 and MCM-41 materials* - Journée scientifique de la SCF Section Rhône-Alpes, Villeurbanne (France), 11/06/**2015**
8. A. Jabbari-Hichri, S. Bennici, A. Auroux - Contribution à l'étude de l'adsorption de vapeur d'eau par des matériaux poreux : application pour pompe à chaleur - SCF congress 2015, Lille (France), 4-9/07/**2015**
9. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Chaleur d'adsorption de la vapeur d'eau sur des matériaux solides : application pour la pompe à chaleur* - Matériaux 2014, Montpellier (France), 24-28/11/**2014**
10. E. Lefebvre, E. Gagnière, S. Bennici, A. Auroux, D. Mangin - *Evaluation de systèmes binaires sel/ eau pour le stockage inter-saisonnier de l'énergie solaire* - Journées Nationales sur l'Energie Solaire (JNES), Perpignan (France) 8-10/07/**2014**
11. E. Lefebvre, A. Jabbari-Hichri, S. Bennici, A. Auroux - *Stockage thermochimique de la chaleur par l'adsorption d'eau sur des matériaux solides ou des solutions liquides* - Journée SFT, Paris (France), 7/02/**2014**
12. R. Kourieh, S. Bennici, M. Marzo, A. Gervasini, A. Auroux - *Activity in the cellobiose hydrolysis of the surface acid sites of tungstated zirconia catalysts* - EPNOE 2013, Nice (France), 21-24/10/**2013**
13. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J-L. Couturier, J-L. Dubois, A. Auroux - *Biocarburants pour avions: de la production de nitriles gras à partir de biomasse non-comestible* - Journée ENERGIE de la JSF, Lyon (France), 26/06/**2013**
14. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin , A. Auroux - *Study of absorption couples used in solar heat storage process* - JEEP 2013, Nancy (France), 19-21/03/ **2013**
15. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin, A. Auroux - *Stockage intersaisonnier de la chaleur: enthalpies de dissolution et de cristallisation de sels d'ammonium et de potassium à 25°C* - JCAT 2013, Lyon (France), 21-23/06/**2013**
16. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Stockage inter-saisonnier de la chaleur : Chaleur de sorption de l'eau sur des composites à base de silice-alumine* - JCAT 2013, Lyon (France), 21-23/05/**2013**
17. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin, A. Auroux - *Etude des propriétés thermodynamiques de couples d'absorption pour le stockage inter-saisonnier de l'énergie solaire* - Journée de printemps de la SCF, Grenoble (France) - 13/06/**2013**

- **Poster communications at Congresses, Symposiums**

International:

1. U. Sager, I. Ghouma, M. Jeguirim, E. Däuber, C. Matei Ghimbeu, L. Limousy, S. Bennici, R. Ligotski, F. Schmidt, A. Ouederni - *NO<sub>x</sub> adsorption performance of different charcoals physically activated with water vapor* – CARBON 2018, Madrid (Spain), 1-6/07/**2018**
2. D. Allam, S. Bennici, S. Cheknoun, S. Hocine - *Effect of La and Ce addition on the catalytic hydrogenation of carbon dioxide over CuO-ZnO/SiO<sub>2</sub>-type catalysts* - 6th International Conference on Sustainable Solid Waste Management, Naxos Island (Greece), 13–16/06/2018
3. D. Allam, S. Bennici, M.A. Bourkache, S. Hocine - *CO<sub>2</sub> valorization on mixed oxide catalysts* - The 9th International Renewable Energy Congress (IREC 2018), Hammamet (Tunisia), 20-22/03/**2018**
4. A. Lilic, O. Otman, V. Folliard, S. Bennici, A. Auroux – *Understanding the catalytic performances in biomass-derived reactions from the acid/base sites strength point of view* – The international Symposium on Green Chemistry, ISG 2017, La Rochelle (France), 16-19/05/**2017**
5. A. Jabbari-Hichri, S. Bennici, A. Auroux – *Thermochemical heat storage capacity of nanoporous molecular sieves: effect of NaOH addition* - EUCHEMS, Sevilla (Spain), 11-15/09/**2016**
6. A. Lilic, S. Bennici, J-F Devaux, J-L. Dubois, A. Auroux - *Acrolein production from a mixture of alcohols in gas phase on silica-supported basic oxides catalysts: on which sites?* - FCCat 2016, Frejus (France), 23-27/05/**2016**
7. A. Lilic, D. Bozzo, S. Bennici, A. Auroux – *Comparison of gas phase and liquid phase adsorption calorimetry for evaluating the acid-base properties of various heteropolyacids* – CCTA12, Zakopane (Polland), 6-10/09/**2015**
8. S. Bennici, A. Auroux - *Relationship between surface acid/base sites of solid catalysts and their catalytic activity in biomass derived reactions* - 12th European Congress on Catalysis – EuropaCat-XI, Kazan (Russia), 30/08-04/09/**2015**
9. S. Bennici, O. Otman, A. Auroux - *Is There Any Relationship Between Acid Strength of Solid Catalysts and Their Catalytic Activity in Fructose Dehydration Reaction?* - NAM 2015 – Pittsburgh (USA), 14-19/06/**2015**
10. J. Cai, S. Bennici, A. Auroux - *Hydrogen storage in modified mesoporous carbons: influence of N-species addition* - EmHyTeC2014, Taormina (Italy), 9-12/12/**2014**
11. E. Lefebvre, L. Fan, E. Gagniere, S. Bennici, A. Auroux, D. Mangin - *Study of lithium bromide crystallization in water in a project of inter-seasonal heat storage process* –ISIC 19th International Symposium on industrial crystallization, Toulouse (France),16-19/09/**2014**
12. S. Bennici, A. Auroux - *Innovative applications of calorimetry in the clean and renewable energy field* – NEXTLAB 2014 conference, Paris (France) 2-4/04/**2014**
13. A. Mekki-Berrada, S. Bennici, J-L. Couturier, J-L. Dubois, A. Auroux - *Catalytic conversion of fatty acids into nitriles in liquid and gas phase: bifunctional catalysts evaluated by microcalorimetry* - Tomorrow's biorefineries in Europe, Brussels (Belgium), 11-12/02/**2014**
14. A. Auroux, S. Bennici, O. Otman, V. Rac, V. Rakić – *Gas and liquid phase acidity assessment of hierarchical FAU, BEA and MFI zeolites obtained by alkaline treatment* – 5th Czech-Italian-Spanish conference on Molecular Sieves and Catalysis, Segovia (Spain), 16-19/06/**2013**

15. A. Jabbari-Hichri, S. Bennici, A. Auroux - Interseasonal heat storage in silica-alumina based composites – 2nd Central and Eastern European Conference on Thermal Analysis and Calorimetry, CEEC-TAC2, Vilnius (Lithuania), 27-30/08/2013
16. V. RAKIC, V. RAC, D. STOSIC, S. BENNICI, A. AUROUX. Adsorption/desorption of methanol on different zeolite types studied by TPD and FTIR - EUROPACAT 11, Lyon (France), 1-6/09/2013
17. J. Cai, S. Bennici, J. Shen, A. Auroux - *Direct oxidation of benzene to phenol on iron-impregnated mesoporous carbon catalysts* - EUROPACAT 11, Lyon (France), 1-6/09/2013
18. J. Cai, S. Bennici, A. Auroux - *The removal of phenol and nicotine in aqueous solution by mesoporous carbon materials* - EUROPACAT 11, Lyon (France), 1-6/09/2013
19. D. Stosic, S. Bennici, S. Sirotin, A. Travert, P. Miquel, M. Capron, F. Dumeignil, C. Calais, J-L. Couturier, J-L. Dubois, A. Auroux - *Acidic-basic properties of zirconia and titania based catalysts for the synthesis of Guerbet alcohols* - EUROPACAT 11, Lyon (France), 1-6/09/2013
20. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin, A. Auroux - *Thermodynamic studies of absorption couples applied in solar heat storage processes* - European Congress and Exhibition on Advanced Materials and Processes, EUROMAT 2013, Sevilla (Spain), 8—13/09/2013
21. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Thermal energy storage properties of new composite materials* - ECSSC14-European Conference on Solid State Chemistry- Bordeaux (France), 7-10/07/2013
22. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J-L. Dubois, A. Auroux - Zinc catalyzed conversion of fatty acids into nitriles at low temperature for aviation fuels - 23<sup>rd</sup> NAM, Louisville (USA), 2-7/06/2013
23. T. Caillot, B. Beguin, F.J. Cadete Santos Aires, S. Bennici, A. Giroir-Fendler, A. Auroux, *Hydrothermal synthesis of zirconia based catalysts for toluene combustion* - EUROPACAT 11, Lyon (France), 1-6/09/2013
24. R. Kourieh, S. Bennici, A. Giroir-Fendler, L. Retailleau, A. Auroux - *Selective catalytic reduction of NO by n-decane on ZrO<sub>2</sub>-Me<sub>2</sub>O<sub>3</sub> (Me= B, Al, Ga, In) and WO<sub>3</sub>/(ZrO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>) catalysts* - 7<sup>th</sup> International Conference on Environmental Catalysis, Lyon (France), 2 – 6/09/2012
25. D. Stosic, S. Bennici, V. Rakic, A. Auroux - *Tuning the acidity of niobia: characterization and catalytic activity of Nb-Me mesoporous mixed oxides* - 7<sup>th</sup> International Conference on Environmental Catalysis, Lyon (France), 2 – 6/09/2012
26. V. Rac, S. Jevtić, S. Bennici, N. Rajić, V. Rakić, A. Auroux - *Catalytic conversion of salicylic acid on iron-containing molecular sieves* - 7<sup>th</sup> International Conference on Environmental Catalysis, Lyon (France), 2–6/09/2012
27. D. Stosic, S. Bennici, V. Rakic, A. Auroux - *Reactivity of methanol over Nb<sub>2</sub>O<sub>5</sub>-CeO<sub>2</sub> multifunctional catalysts: Microcalorimetry, FT-IR, TPR and TPD-MS studies* - 15th International Congress on Catalysis 2012, Munchen (Germany), 1-6/07/2012
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30. H. Yu, S. Bennici, A. Auroux - *Investigations on the kinetics of dehydrogenation process in the MgH<sub>2</sub>-Tmnano (Tm=Ni, Fe, Cu, Co, Zn) system* - CTEC 2012, Lyon (France), 26-29/06/**2012**
31. J. Cai, S. Bennici, A. Auroux - *Synthesis and characterization of NMC and C<sub>3</sub>N<sub>4</sub>-MC* - CTEC 2012, Lyon (France), 26-29/06/**2012**
32. R. Bouarab, A. Boudjemaa, S. Bennici, A. Auroux - *Effect of the acid-base properties created by the support addition oxides on the catalytic activity of iron oxide in WGS reaction* - CTEC 2012, Lyon (France), 26-29/06/**2012**
33. R. Kourieh, S. Bennici, A. Auroux - *Synthesis and acid-base properties of WO<sub>3</sub>-Me<sub>2</sub>O<sub>3</sub> (me = al, ga, in) and WO<sub>3</sub>/ZrO<sub>2</sub>-Me<sub>2</sub>O<sub>3</sub> (Me = B, Al, Ga, In) catalysts* - CTEC 2012, Lyon (France), 26-29/06/**2012**
34. D. Stosic, V. Rakic, S. Bennici, A. Auroux - *Synthesis and catalytic properties of Nb-Me (Me=Ti, Zr, Ce) mesoporous mixed oxides* - CTEC 2012, V (France), 26-29/06/**2012**
35. O. Otman, D. Stosic, S. Bennici, A. Auroux - *Evaluation of the acidity of solid catalysts by adsorption of 2-phenyl-ethylamine from aqueous phase* - CTEC 2012, V (France), 26-29/06/**2012**
36. A. Mekki-Berrada, G. Scalabrino, S. Bennici, A. Auroux, J-P. Gillet, J-L. Couturier, J-L. Dubois - *One-pot without solvent conversion of fatty acids:medium's physical properties determination by DSC* - CTEC 2012, Lyon (France), 26-29/06/**2012**
37. S. Bennici, G. Whiting, A. Auroux - *Zeolite-based materials for interseasonal energy storage* - 2012 MRS Spring Meeting, San Francisco (USA), 9-13/04/**2012**
38. S. Bennici, H. Yu, A. Auroux - *New catalytic materials in NaBH<sub>4</sub> hydrolysis for a faster on-demand hydrogen production*, 2012 MRS Spring Meeting, San Francisco (USA), 9-13/04/**2012**
39. A. Mekki-Berrada, D. Grondin, S. Bennici, J-P. Gillet, J-L. Dubois, A. Auroux - *Characterization and development of catalysts for the synthesis of fatty nitriles at low temperature* - EuroBioRef Summer School, Lecce (Italy), 18-24/09/**2011**
40. R. Kourieh, V. Rakic, S. Bennici, A. Auroux - *Influence of surface acid-base properties of tungstated zirconia catalysts on the conversion of fructose to 5-HMF*- Europacat X Conference, Glasgow (UK), 28/08-2/09/**2011**
41. R. Kourieh, S. Bennici, M. Marzo, A. Gervasini, A. Auroux - *Catalytic hydrolysis of cellobiose to glucose on tungstated zirconia catalysts* - Europacat X Conference, Glasgow (UK), 28/08-2/09/**2011**
42. R. Kourieh, S. Bennici, A. Giroir-Fendler, L. Retailleau, A. Auroux - *ZrO<sub>2</sub> based mixed oxides as catalysts for the selective reduction of NO by n-decane* - Europacat X Conference, Glasgow (UK), 28/08-2/09/**2011**
43. D. Stosic, S. Bennici, J-L. Couturier, J-L. Dubois, A. Auroux - *Influence of surface acid-base properties on the product selectivity in gas phase oxidation of glycerol* - Europacat X Conference, Glasgow (UK), 28/08-2/09/**2011**
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45. R. Kourieh, S. Bennici, A. Auroux - *Characterization of the basic properties of Me<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub> (Me=B, Al, Ga, In) mixed oxides by adsorption calorimetry* - Congrès GFZ-GECat 2011, Areche (France), 23-26/05/**2011**
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49. R. Kourieh, S. Bennici, A. Auroux - *Influence of the preparative route on the properties of  $WO_x$ - $ZrO_2$  catalysts* - SCTE 2010: International Conference on Solid Compounds of Transition Elements, Annecy (France), 5-10/09/**2010**
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51. L. Damjanovic, S. Bennici, A. Auroux - *Energy and kinetics of the hydrolysis reaction of borohydrides* - First International Conference on Materials for Energy 2010, Karlsruhe, (Germany), 4-8/07/**2010**
52. M. Majchrzak, L. Damjanovic, S. Bennici, A. Auroux - *Calorimetric and kinetic studies of the catalyzed hydrolysis of sodium borohydrides* - 18<sup>th</sup> World Hydrogen Energy Conference, Essen (Germany), 17-21/05/**2010**
53. S. Boumaza, A. Boudjema, A. Auroux, S. Bennici, M. Trari, A. Bouguelia, R. Bouarab - *Water gas shift reaction over  $CuB_2O_4$  catalysts* - 9<sup>th</sup> Natural Gas Conversion Symposium: NGCS 9, Lyon (France), 30/05 - 3/06/**2010**
54. L. Damjanovic, A. Garron, S. Bennici, A. Auroux - *Production of clean hydrogen on demand: A calorimetric study of sodium and potassium borohydride catalytic hydrolysis* - Europacat IX Conference, Salamanca (Spain) - 30/08 - 4/09/**2009**
55. G. Postole, S. Bennici, A. Auroux - *Study of Pt-CO interaction in carbon supported platinum by using adsorption microcalorimetry in the working conditions of a PEMFC* - Europacat IX Conference, Salamanca (Spain) - 30/08 - 4/09/**2009**
56. H. Zhao, S. Bennici, J. Shen, A. Auroux - *Selective oxidation of methanol to dimethoxymethane over  $V_2O_5$ - $TiO_2$ / $SO_4^{2-}$  catalysts prepared by various methods* - 6<sup>th</sup> World Congress on Oxidation Catalysis, Lille (France), 5-10/07/**2009**
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58. H. Zhao, S. Bennici, J. Shen, A. Auroux - *Calorimetric study of the acidic character of sulphated vanadia-titania catalysts used in methanol oxidation to dimethoxymethane* - 9<sup>th</sup> Mediterranean Conference on Calorimetry and Thermal Analysis, Marseille (France), 15-18/06/**2009**
59. A. Garron, S. Bennici, A. Auroux - *In-situ generated nanocatalysts for  $NaBH_4$  hydrolysis studied by liquid phase calorimetry: influence of the nature of the metal on the  $H_2$  production rate* - 21<sup>th</sup> North American Meeting, S. Francisco (USA), 7-12/06/**2009**
60. H. Zhao, S. Bennici, J. Shen, A. Auroux - *Improved  $V_2O_5$ - $TiO_2$ / $SO_4^{2-}$  catalysts for the selective oxidation of methanol to dimethoxymethane* - 21<sup>th</sup> North American Meeting, S. Francisco (USA), 7-12/06/**2009**

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63. S. Bennici, A. Garron, D. Swierczynski, A. Auroux - *Understanding and controlling the catalytic hydrolysis of sodium borohydride for the production of high-purity hydrogen* - 3<sup>rd</sup> edition : Catalysis and sustainable development, Lyon (France), 19-20/11/**2008**
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65. B. Dragoi, E. Dimitriu, S. Bennici, A. Auroux - *Acid and adsorptive properties of Al modified SBA-15 sample* - 4<sup>th</sup> International Feza Conference, Paris (France), 2-6/09/ **2008**
66. P. Lignier, M. Comotti, F. Schuth, B. Jouguet, S. Bennici, A. Auroux, J.L. Rousset, V. Caps - *Tuning activities of Au/TiO<sub>2</sub> catalysts in the aerobic epoxidation of stilbene* - 2<sup>nd</sup> IDECAT Conference on Catalysis, Porquerolles, (France), 31/05-5/06/**2008**
67. D. Swierczynski, S. Bennici, A. Auroux - *Innovative materials for H<sub>2</sub> storage* - Ninth Yugoslav Materials Research Society Conference, YUCOMAT 2007, Herceg-Novi (Montenegro), 10-14/09/**2007**
68. S. Bennici, X. Nijhuis, B.M. Weckhuysen - *Real time spectroscopic control of a VPO catalyst for the selective oxidation of n-butane to malei anhydride* - Europacat VII Conference, Turku (Finland), 26-31/08/**2007**
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3. A. Lilic, S. Bennici, J-F Devaux, J-L. Dubois, A. Auroux - *SO<sub>2</sub> and NH<sub>3</sub> adsorption calorimetry in the study of the surface acid/base properties of oxide catalysts for acrolein production* - JCAT2016, Anglette (France), 17-20/05/**2016**
4. A. Lilic, D. Bozzo, S. Bennici, A. Auroux - *Acidity of heteropolyacids measured by probe adsorption calorimetry: NH<sub>3</sub> in gas phase and PEA in n-decane* – journée scientifique de la SCF 2015 Section Rhône-Alpes, Villeurbanne (France), 11/06/**2015**
5. A. Lilic, D. Bozzo, S. Bennici, A. Auroux - *Investigation of the acid-base properties of a series of heteropolyacids by adsorption calorimetry in gas phase and liquid phase* – JCAT46, Montpellier (France), 20-23/05/**2015**
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7. A. Jabbari-Hichri, S. Bennici, A. Auroux - *Thermally driven adsorption heat pumps: heats of water vapor adsorption on various zeolites* - JCAT45, 45th French Conference on Calorimetry and Thermal Analysis, Rouen (France), 20-23/05/**2014**
8. W. Hajji, T. Caillot, F.J. Cadete Santos Aires, S. Bennici, A. Auroux- *Synthèse hydrothermale et caractérisation de catalyseurs Ce<sub>1-x</sub>Zr<sub>x</sub>O<sub>2</sub> pour la combustion du toluène* – Journées de la SCF, Chambéry, 12/06/**2014**
9. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin, A. Auroux - *Evaluation de systèmes binaires sel/ eau pour le stockage inter-saisonnier de l'énergie solaire* – Journées de la SCF, Chambéry, 12/06/**2014**
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11. O. Otman, S. Dusan, S. Bennici, A. Auroux - *Caractérisation par calorimétrie d'adsorption de l'acidité de catalyseurs en milieu aqueux* - Journée de l'Institut de Chimie de Lyon 2013, Lyon (France), 5/12/**2013**
12. A. Mekki-Berrada, S. Bennici, J-P. Gillet, J-L. Dubois, A. Auroux - *Production de nitriles gras à destination des biocarburants pour avion : catalyse à base de zinc pour procédés à basse température* - JCAT 2013, Lyon (France), 21-23/05/**2013**

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15. O. Ounas, T. Caillot, S. Bennici, A. Giroir-Fendler, A. Auroux - *Synthèse hydrothermale microonde et caractérisation de catalyseurs oxydes mixtes pour l'oxydation totale du toluène* - JCAT 2013, Lyon (France), 21-23/05/**2013**
16. J. Cai, S. Bennici, A. Auroux - *Liquid phase calorimetry study of phenol and nicotine adsorption on mesoporous carbon materials* - JCAT 2013, Lyon (France), 21-23/05/**2013**
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20. E. Lefebvre, S. Bennici, E. Gagniere, D. Mangin, A. Auroux - *Etude des propriétés thermodynamiques de solutions salines aqueuses pour le stockage inter-saisonnier de l'énergie solaire* - Journée ENERGIE de la JSF, Lyon (France), 26/06/**2013**
21. H. Yu, S. Bennici, A. Auroux - *Etude thermique et cinétique des cycles d'hydratation/déshydratation dans les systèmes MgH<sub>2</sub>-Tm<sub>nano</sub> (Tm=Ni, Fe, Cu, Co, Zn)* - Journée de printemps SFC 2012, Villeurbanne (France), 7/06/**2012**
22. A. Mekki-Berrada, D. Grondin, S. Bennici, A. Auroux - *Cationic migration effects on basic features: design of amphoteric mixed oxides of Zn with IIIA elements (Al, Ga, In) using microcalorimetry* - Journée de printemps SFC 2012, Villeurbanne (France), 7/06/**2012**
23. D. Stosic, O. Otman, S. Bennici, A. Auroux - *Calorimetric investigation of acidity of solid catalysts in aqueous phase* - Journée de printemps SFC 2012, Villeurbanne (France), 7/06/**2012**
24. D. Stosic, V. Rakic, S. Bennici, A. Auroux - *Synthesis, characterization and catalytic activity of CeO<sub>2</sub>-Nb<sub>2</sub>O<sub>5</sub> mixed-oxide catalysts* - Journée de printemps SFC 2012, Villeurbanne (France), 7/06/**2012**
25. N. Chanut, T. Caillot, S. Bennici, A. Auroux - *Synthèse micro-ondes et caractérisation d'oxydes mixtes ZrO<sub>2</sub>-TiO<sub>2</sub>* - Journée de printemps SFC 2012, Villeurbanne (France), 7/06/**2012**
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