

CURRICULUM VITAE



NAME	:	AHMED
SURNAME	:	AOUISSI
CURRENT POSITION	:	PROFESSOR
PERSONAL ADDRESS	:	Chemistry Department –KSA-
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WORKING LANGUAGES	:	Arabic – French - English

Educational background

- 1- General Certificate of Education, Maths Option (Laghouat, Algeria) 1976.
- 2- M. Sc (Higher Studies Certificate) in Applied Organic Chemistry (Algies, Algeria) 1981.
- 3- Master in Catalysis (Algies, Algeria) (1985)
- 4- Ph.D in Catalysis (Paris, France) 1993.

Administrative Positions:

- 1997-2002 : Rector of the University of Ammar Telidji (Laghouat-Algeria).
1997-2002 : President of the Scientific Council of the University of Laghouat
2001-2002 : Manager of the Process Engineering Laboratory of University of Laghouat (Algeria).
1995-1996 : Responsible of industrial chemistry branch.
: Scientific Responsible for Surfaces Engineering (Post-Graduation).

Academic Positions:

1. Prof. in Physical Chemistry, King Saud University, 2010 – up-to-Date.
2. Associate Prof. in Physical Chemistry, King Saud University, 2002 – 2010.
3. Associate Prof. in Chemistry, Laghouat University, Algeria 1997 – 2002.
4. Assistant Prof. in Chemistry, Laghouat University, 1993 – 1997.
5. Assistant Lecturer, Houari Boumediene University, Algeria, 1982-1986

Teaching Experience:

- General chemistry
- Organic chemistry
- Surface chemistry and catalysis
- Chemical Kinetics
- Advanced physical chemistry

Research Interest Areas:

- Catalysis
- Polymers synthesis
- Membranes synthesis and applications
- Nanocomposites

SCIENTIFIC ACTIVITIES

BOOK TRANSLATION

Translation of a book entitled "SURFACE" (Oxford Series, Garry Attard & Collin Barnes), King Saud University Press, Riyadh, Saudi Arabia.

PUBLICATIONS

1. Evidence of β -MoO₃ formation during thermal treatment of silica-supported 12-molybdophosphoric acid catalysts.
M. Fournier, A. Aouissi, and C. Rocchiccioli-Deltcheff., I. Chem. Soc. Chem. Commun. 1994.
2. Silica-supported 12-molybdophosphoric acid catalysts: influence of thermal treatments and of the Mo contents on their behavior, from IR, X-ray Diffraction studies and catalytic reactivity in the methanol oxidation.
C. Rocchiccioli-Deltcheff, A. Aouissi, and S. Launay, M. Fournier, J. Mol. Catal. A Chem. 114, 331 (1996).
3. Catalytic reactivity of 12-molybdophosphoric acid related to its thermal behavior investigation from IR, Raman, Polarographic and X-Ray Diffraction studies. A comparison with 12-molybdosilicic acid.
C. Rocchiccioli-Deltcheff, A. Aouissi, M.M. Bettahar, S. Launay and, M. Fournier. J. Catal., 164, 16-27 (1996).
4. CO₂ effect on the catalytic behavior of a series of alumina supported mixed oxides.
A. Aouissi, D. Aldhayan, H.A. Mahdjoubi. J. Saudi. Chem. Soc., Vol. 9, No. 1; 171-178 (2005).
5. Effect of the Brønsted acidity on the behavior of CO₂ methanol reaction.
L.A. Allaoui, A. Aouissi, J. Mol. Catal., A : Chem. 259 (2006) 281.
6. Catalytic reactivity of 12-molybdophosphoric acid and its Copper and Zinc salts in

CO₂ methanol reforming.

A. Aouissi, L.A. Allaoui, D. Aldhayan, Asian Journal of Chemistry, Vol 18, No 4 (2006), 3009-3016

7. CO₂-methanol reforming reaction over alumina-supported and unsupported kegglin-type heteropoly compounds.
A. Aouissi, L.A. Allaoui., J. Saudi. Chem. Soc Vol. 10, No. 1; pp. 193-202 (2006).
8. Isomerization of n-hexane over Silica-supported Heteropolyoxometallates promoted by Pt-Ce Oxides.
Abdelaziz Gherib, Ahmed Aouissi, Alain Rives, Michel Fournier, Robert Hubaut, Chin. J. Catal, (2007), 28 (12): 1041-1046.
9. Silica-Supported Heteropolyacids Promoted by Pt-Ce Oxides in the isomerization of n-heptane.
Abdelaziz Gherib, Ahmed Aouissi, Alain Rives, Michel Fournier, Robert Hubaut, Bulletin of the Catalysis Society of India, 7(2008)67-75
10. Oxidation of cyclohexane over unsupported and alumina supported (NH₃)₄PMo₁₂O₄₀ : The role of Brønsted acid sites.
A. Aouissi, Bulletin of the catalysis Society of India, 7 (2008)123-128.
11. Oxidation of cyclohexane by hydrogen peroxide over ammonium 12-molybdophosphate.
A. Aouissi , Malaysian Journal of Chemistry, (2008), Vol. 10, No 1, 032-038, 2008
12. Characterization of a series of iron based oxides used as catalysts in oxidative dehydrogenation of ethylbenzene.
Ahmed Aouissi, Ahmed Al-Owais, and Hoceine Bayahia . J. Saudi. Chem. Soc Vol. 13, No. 1; pp 127-134 (2009).
13. The Cationic Ring-Opening Polymerization of Tetrahydrofuran with 12

Tungstophosphoric Acid .

Ahmed Aouissi, Salem S. Al-Deyab and Hassan Al-Shahri. *Molecules* 2010, 15,1398-1407

14. The cationic ring-opening polymerization of Tetrahydrofuran with Keggin- type heteropoly compounds as solid acid catalysts.

Ahmed Aouissi, Salim Salem. Al-Deyab, Hassan Al-Shehri.

Chinese Journal of Polymer Science Vol. 28, No. 3, (2010), 1–6

15. Ethyl Benzene Dehydrogenation in the Presence of Carbon Dioxide Over $\text{Fe}_2\text{O}_3\text{-Cr}_2\text{O}_3$ Catalyst.

Ahmed Aouissi, Zeid Abdullah Al-Othman, and Hoceine Bayahia. *Asian Journal of Chemistry* Vol. 22, No. 6 (2010), 4873-4879

16. Gas-Phase Synthesis of Dimethyl Carbonate from Methanol and Carbon Dioxide Over $\text{Co}_{1.5}\text{PW}_{12}\text{O}_{40}$ Keggin-Type Heteropolyanion.

Ahmed Aouissi, Zeid Abdullah Al-Othman and Amro Al-Amro.

Int. J. Mol. Sci. 2010, 11, 1343-1351.

17. Reactivity of heteropolymolybdates and heteropolytungstates in the cationic Polymerization of Styrene

Ahmed Aouissi, Zeid Abdullah Al-Othman, Holeil Al-Anezi. *Molecules* 2010, 15, 3319-3328.

18. Transformation of *n*-Heptane by Brønsted Acidic Sites Over 12-Tungstosilicic acid.

Ahmed Aouissi, *Asian Journal of Chemistry*, 22, No. 6 (2010), 4924-4930.

19. Cationic polymerization of 2,3 Dihydro-4H pyran using $\text{H}_3\text{PW}_{12}\text{O}_{40}$ as a solid acid catalyst.

Ahmed Aouissi, *Journal of Applied Polymer Science*. 117 Issue 3 (2010)1431-1435

20. Reactivity of Heteropolytungstate and Heteropolymolybdate Metal Transition Salts in the Synthesis of Dimethyl Carbonate from Methanol and CO₂
Ahmed Aouissi, Salem S. Al-Deyab, Ahmad Al-Owais, and Amro Al-Amro.
Int. J.Mol. Sci. 2010, 11, 2770-2779.
21. Direct synthesis of dimethyl carbonate from methanol and carbon dioxide using heteropolyoxometalates: The effects of cation and addenda atoms
Ahmed Aouissi, Allen W. Apblett, Zeid A. AL-Othman, Amro Al-Amro
Transition Met Chem (2010) 35:927–931.
22. Heteropolyanions Catalysts for *n*-Heptane Conversion: Effect of the Counter Cation and the Addenda Atoms.
Ahmed Aouissi, Daif Aldhayan, Zeid A. AL-Othman and Ahmed Lokbaichi
Asian Journal of Chemistry; Vol. 24, No. 9 (2012), 3899-3904
23. Dehydrogenation of Ethylbenzene in the Presence of CO₂ Over Iron-Chrome Binary Oxide Catalytic System
Ahmed Aouissi, Hoceine Bayahia, Zeid A. AL-Othman, Ahmed AL-Owais.
Asian Journal of Chemistry; Vol. 24, No. 8 (2012), 3754-3758
24. Comparative study between gas phase and liquid phase for the production of DMC from methanol and CO₂.
Ahmed Aouissi, Salem S. Al-Deyab Journal of Natural Gas Chemistry Vol. 21 No. 2 2012, Pages 189–193
25. Conversion of Isobutane in Presence of Carbon Dioxide over Molybdenum Oxide Catalysts obtained from Heteropolymolybdate Precursors
Ahmed Aouissi, Daif Aldhayan, Saad Alkahtani. *Chin. J. Catal.*, 2012, 33: 1474–1479
26. Fabrication of Carbon Graphite-supported Pt–SiW₁₂O₄₀ Catalysts Effect of the Pt Loading on the Electrooxidation of Cyclohexane.
M.S.A. Saleh, A. Aouissi, A.A. Al-Suhybani and A.M. Al-Mayouf.
Journal of New Materials for Electrochemical Systems 17, 049-054 (2014)

27. Preparation and Characterization of Carbon Nanotubes-Supported Pt-SiW₁₂O₄₀ Catalyst for Electrooxidation of Cyclohexane to Cyclohexanone/Cyclohexanol .
A. Aouissi, A.A. Al-Suhybani, A.M. Al-Mayouf and M.S.A. Saleh
Int. J. Electrochem. Sci., 9 (2014) 2762 – 2774
28. Dehydrogenation of Ethylbenzene in the Presence of Carbon Dioxide Over Supported Fe₂O₃-Cr₂O₃ Mixed Oxides Catalysts: Effects of the Support and Mixed Oxides Loading.
Ahmed Aouissi, Housseine Bayahia, ZEID A. AL-Othman, Rafiq Siddiqui
Asian Journal of Chemistry; Vol. 26, No. 2 (2014), 504-508
29. Catalytic Performance of Carbon Nanotubes Supported 12-Tungstosilicic Acid in the Electrooxidation of Cyclohexane to Cyclohexanone and Cyclohexanol.
Al-Mayouf AM, Saleh MSA, Aouissi A and Al-Suhybani AA
J Chem Eng Process Technol 5 (2014) 183.
30. Development of a 12-tungstosilicate-modified carbon electrode for cyclohexane electrocatalytic oxidation.
A.A. Al-Suhybani, A.M. Al-Mayouf, M.S.A. Saleh, A. Aouissi
Int. J. Electrochem. Sci. 9 (2014) 1547 – 1556
31. Mechanism of the Polymerization of Styrene and 2,3 Dihydro-4H-Pyran Catalyzed by H₃PW₁₂O₄₀ Catalyst.
Hassan Al-Shahri, Ahmed Aouissi and Zeid Abdullah Al-Othman
Oriental Journal of Chemistry. 2015, Vol. 31, No. (3): 1695-1701
32. Keggin-Type Heteropolyacid for Ring-Opening Polymerization of Cyclohexene Oxide: Molecular Weight Control.
Ahmed Aouissi, Zeid Abdullah Al-Othman, and Abdurrahman Salhab.
International Journal of Polymer Science, vol. 2015, 2-6 2015.
33. Influence of Reaction Condition on the catalytic Oxidation of Cyclohexene with molecular Oxygen using a series of Keggin-type Polyoxometalates.
Ramyah Radman, Ahmed Aouissi and Wafa Mekhamer.
Oriental Journal of Chemistry. Vol. 31(4), 2277-2284 (2015)

34. Effect of CO₂ on the Conversion of Isobutane over Iron Cerium Molybdenum Mixed Oxides. Daif Aldhayan, Saad Alkahtani and Ahmed Aouissi. Oriental Journal of Chemistry. Vol. **32**(5), 2633-2639 (2016)
35. Effect of CO₂ on the Oxidation of Cyclohexene by H₂O₂ using Co_{1.5}PW₁₂O₄₀ catalyst. R. Radman, A. Aouissi, A. Al Kahtani and W. Mekhamer. Accepted for publication in *Petroleum Chemistry.*, Vol. 57, No. 1, pp. 82–87 (2017).
36. Gas Phase Oligomerization of Isobutene over acid treated Kaolinite Clay catalyst. Daif Aldhayan , Ahmed Aouissi. Bulletin of Chemical Reaction Engineering & Catalysis, 12 (1), 2017, 119-126

Submitted papers

37. Effect of CO₂ on the Oxidation of Cyclohexene by H₂O₂ using Co_{1.5}PW₁₂O₄₀ catalyst. (accepted : *Petroleum Chemistry.*)
R. Radman, A. Aouissi, A. Al Kahtani and W. Mekhamer.
38. Gas Phase Oligomerization of Isobutene over acid treated Kaolinite Clay Catalyst. (submitted to : *Journal of Porous Materials.*)
Daif Aldhayan , Ahmed Aouissi

Papers presented at Conferences:

1. L.A. Allaoui, A.Aouissi, Reformage catalytique du methanol en presence de CO₂ sur des derives lacunaires des heteropolyanions de type Keggin,. 10eme Journees de catalyse, 14-15 mai 2007, tlemcen, Algerie.
2. Preparation et caracterization de catalyseurs heteropolyanioniques. Tests en reaction d'oxydation du n-pentane.
M.B. taouti, A. Aouissi. Conference nationale sur la chimie organique industrielle. Oum El Bouaghi, 9 et 10 octobre 2001.

3. Synthèse et caractérisation des polyoxométallates de type Keggin.
M.B. Taouti, A. Aouissi. 3ème Congrès Algérien de Génie des Procédés. Ourgla Algérie, 18-20 décembre 2001.
4. Catalytic activity of 12-molybdophosphoric acid and its salts for CO₂ methanol reforming. A. Aouissi and L.A. Allaoui. International Conference on Chemistry and Industry. 27th/ 11-12th/ 12, 2004 Riyadh, K.S.U.
5. CO₂ effect on n-heptane conversion over a series of CoO-ZnO-Al₂O₃ catalysts. A. Aouissi, H.A. Mahjoubi, and D. Aldhayan. International Conference on Chemistry and Industry. 27th/ 11-12th/ 12, 2004 Riyadh, K.S.U.
6. CO₂ effect on n-heptane cyclization reaction over alumina supported mixed oxides. A. Aouissi, D. Aldhayan, and H.A. Mahjoubi. 2nd International Conference on Chemistry and its Applications. December 6-9, 2003 Doha-Qatar.
7. Preparation and characterization of heteropolyanions catalysts. Reactivity in n-pentane oxidation. M.B. taouti and A. Aouissi. National Conference in Industrial Organic Chemistry. October 9 and 10, 2001. Oum El-Bouaghi-Algeria.
8. Conversion of methanol in the presence of CO₂ over Keggin-type heteropoly compounds. Aouissi and L. A. Allaoui. 16th annual Saudi-Japanese Symposium, Dhahran, Saudi Arabia, November 5-6, 2006.
9. CO₂ methanol reforming over Keggin-type heteropoly compound catalysts. A. Aouissi and L. A. Allaoui. New Trends in the Chemistry of Catalysis. Sharjah-UAE, 13-15 December, 2004
10. Influence of the heteropoly compounds acidity on the n-heptane isomerization Ahmed Aouissi, A. Lokbaichi Daif Al-Dhayan New Trends in the Chemistry of Catalysis December, (2004), 13-15 Sharjah-UAE.

Supervision of M.Sc and Ph D thesis

Ph.D :

1. CO₂-methanol reforming over heteropoly compounds catalysts.
Presented in october 2007.
2. Isomerization of n-hexane over silica supported heteropolyacids catalysts.
Presented in November 2008.
3. Partial oxidation of olefins in the presence of CO₂ as a soft oxidizing agent:
Kinetic study. Presented in February 2015.
4. Development of a catalyst for the direct conversion of methanol to
methyl formate (In progress).
5. Insertion of carbon dioxide into cyclic ethers by carbon supported lacunary
heteropolyanions as porous Catalysts (In progress).

M.Sc:

6. Conversion of n-heptane in presence of CO₂ over semi-conductor catalysts.
Presented in June 2001.
7. Hydroconversion of n-heptane over heteropolyacid catalysts.
Presented in September 2002.
8. Oxidation of cyclohexane over Keggin-type heteropolyanions.
Presented in July 2004.
9. Preparation and testing of supported metal ion exchange-Zeolite catalysts for the
selective conversion of cyclohexane. Presented in April 2006.

10. Oxidation of cyclohexane by hydrogen peroxide using Keggin-type heteropolyanion compound catalysts. Presented in March 2007.
11. Synthesis of styrene by catalytic dehydrogenation of ethyl benzene in the presence of carbone dioxide. Presented in June 2007.
12. Polymerization and copolymerization of cyclic ethers in the presence of heteropolyanion catalysts. Presented in May 2 008.
13. Elaboration of a catalyst for the production of isobutane by dehydrogenation reaction. Presented in July 2008.
14. Synthesis of dimethyl carbonate from methanol and carbon dioxide. Presented in May 2009.
15. Enhancement of mechanical and physical properties of polystyrene by incorporating olefinic units in their main chain. Presented in July 2009.
16. Synthesis of aliphatic-aromatic polyesters over heteropolyanions Catalysts. Presented in January 2008.
17. Synthesis and characterization of some polyamide nanocomposites. Presented in June 2010.
18. Synthesis of a heterogeneous catalyst for the polymerization and copolymerization of epoxides. Presented in October 2011.
19. Synthesis of a crosslinked polymer membrane for the extraction of water from the methanol/water/dimethyl carbonate mixture. Presented in November 2013.
20. Effect of amide unit structure on the physical and chemical properties of polyesteramide . Presented in April 2013

21. Determination of some toxic compounds formed in over used cooking vegetable oil. Presented in May 2012
22. High yield synthesis of Cyclohexanone and Cyclohexanol mixture by catalytic oxidation of cyclohexane using Pervaporation Process. Presented in December 2012
23. Keggin-type heteropolyanion as catalysts for the preparation of low molecular weight styrene-maleic anhydride copolymer. Presented in May 2013.
24. Control of the cationic polymerization of isobutene over solid acid catalyst. Presented in 2015.

FUNDED RESEARCH PROJECTS

Project Manager :

1. Multibranched polymers and copolymers synthesis via cationic ring-opening of unsaturated cyclic ether.
Deanship of Scientific Research. College of Science. King Saud University. K.S.A, 2005-2006. Supported by SABIC
2. Isomerization C₅-C₇ n-alkanes over bulk and supported heteropoly compounds catalysts.
Deanship of Scientific Research. College of Science. King Saud University. K.S.A, 2003-2005.
3. Upgrading of hydrocarbons over vanadium, tungsten and molybdenum based heteropolyanionic catalysts. Algerian project research (1997).
4. High yield synthesis of dimethyl carbonate directly from CO₂ and methanol through combining superhydrophobic ZrO₂-based mesoporous catalysts and pervaporation process. Saudi-Chinese project.

5. Development of a heteropolyanion-modified carbon electrode for cyclohexane electrocatalytic oxidation 2010. Supported by King Abdulaziz City for Science and Technology
6. Synthesis of methacrylic acid monomer by selective oxidation of isobutane, catalyzed by vanadium based nanocatalyst. (Submitted)

Project Member :

7. Activation of alkanes by means of polyoxometallates (French-Algerian Project).
8. Partial oxidation of light alkanes. Deanship of Scientific Research. College of Science. King Saud University. K.S.A, 2003-2005.

Commitees

- 1- Member of the committee for research projects
- 2- Member of the Safety Committee of the Chemistry department
- 3- Member of the Safety Committee of the Chemistry department
- 4- Member of the Ph. D Comprehensive Exam
- 5- Coordinator of physical Chemistry Section, King Saud University.

University and Committee Service

- 1- Evaluation of number of papers for publishing in some scientific journals.
- 2- Evaluation of number of some projects funded by King Abdulaziz City for Sciences and Technology (KACST)
- 3- Member of the examination committee for some MSc and PhD thesis.